

OCTOBER, 1928  
MONTHLY

No. 273

# HITCHCOCK'S MACHINE TOOL BLUE BOOK

DIRECT MAIL ADVERTISING

*to*

*Industrial Machine Shops  
Automotive Plants  
Railway Mechanical and  
Purchasing Departments*

**AND ALL OTHER  
MACHINE TOOL  
USERS**

**Controlled Circulation  
25,000 Monthly**

*Published By*  
**HITCHCOCK PUBLISHING CO.  
508 So. DEARBORN ST.  
CHICAGO**

# More for your money!



This new Reliance Across-the-Line Motor makes it possible for you to get more for your money when buying  $7\frac{1}{2}$  to 30 h. p. induction motors.

For the same price as the ordinary motor and starting compensator you can have Type AL Motors and pushbutton control. This new combination is also a money saver after it is on the job. It saves time by making starting easy and convenient. It saves on upkeep because starters require less attention and fewer replacements.

*Our Bulletin No. 1093 gives all the details*

**Reliance Electric & Engineering Co.**  
1050 Ivanhoe Road, Cleveland, Ohio

**Branches:** Boston; New York; Pittsburgh; Cincinnati; St. Louis;  
Detroit; Buffalo; Philadelphia; Chicago; Birmingham

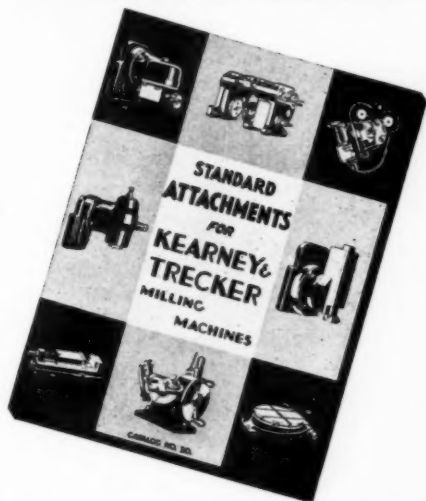
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## RELIANCE <sup>AC</sup> MOTORS

with Ball <sup>DC</sup> Bearings

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Get the most out of your Milwaukees  
with Standard Attachments for  
Production, for Maintenance



If you have not received a copy of Catalog  
No. 30 you should have it.

*Clip this page and send it in. No obligations whatsoever*

Name ..... Position .....

Company .....

Address ..... City .....

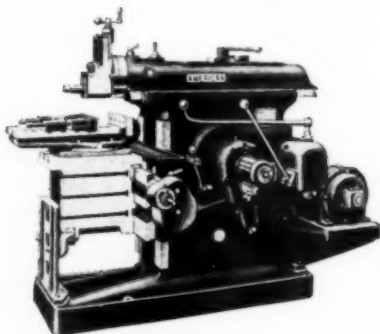
**KEARNEY & TRECKER Corp.**

MILWAUKEE, WIS.

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# The New "American Auto-Oiled"

## The Shaper of Shapers



*The "Auto-Oiled"* is the result of 41 years of active participation in shaper development.

*Its points of excellence* are—Tremendous cutting power; unparalleled rigidity; permanent accuracy; automatic forced lubrication; multiple splined shafts; Timken roller bearings; multiple disc clutch and brake; V-type ram; improved table support; helical gears, alloy steel, hardened; tu-piece bull wheel; centralized control. Accessories and attachments for every conceivable kind of shaper operation.

*We want every shaper user* to know all about the "American Auto-Oiled"—how it does faster work and better work, with greater profit. Mail us your request for complete information today; don't delay—you'll not be obligated in any way.

### The American Tool Works Company

Cincinnati, Ohio, U. S. A.

LATHES

RADIALS

SHAPERS



# More Holes Per Dollar

With SUPER-SERVICE Radials



*The SUPER-SERVICE Radial*

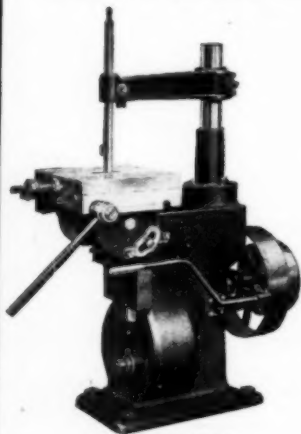
## Less Handling Time — More Time for Drilling

No time is lost in walking from one end of the machine to the other for each change in spindle speed or location. The operator controls 36 speeds, 18 feeds, power column clamping and power rapid traverse *without moving from the spindle.*

**The Cincinnati Bickford Tool Co.**

OAKDALE, CINCINNATI, OHIO

# BAKER KEYSEATERS



Built in  
Five Sizes

Designed  
for  
Miscellaneous  
Keyseating  
and  
Slotting

**No. 0 KEYSEATER**  
Capacity 1" Wide—9" Maximum Stroke

*Exclusive advantages in securing Accuracy and  
High Production are:*

1. Draw Stroke Drive.
2. Upper Support for Cutter Bar.
3. Tilting Table (for Taper Keyseats).
4. Simplicity In Operation.

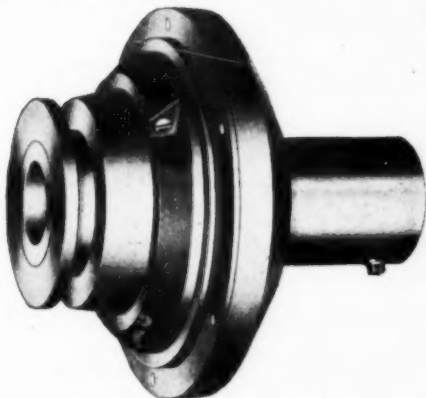
*Write for Catalogue*

**BAKER BROTHERS, INC., Toledo, Ohio**

*Builders of Boring, Drilling, Tapping,  
Keyseating and Slotting Equipment.*

---

# The Conway Disc Clutch



A splendid product that enhances the smooth functioning of the machine you build, that insures its full power development, that adds appearance and safety to its moving parts, that brings a compelling sales feature to its distribution.

It is enclosed and balanced, has centripetal action, accurate, rigid adjustment, easy engagement, instant release, dragfree idling. It is powerful in engagement, and cannot be affected by centrifugal force when idle.

It is the Conway Disc, a splendid clutch. It will give a new "feel" to the control of your machine. Its inherent refinements will appeal to you when you watch it perform under your own conditions. Order one in.

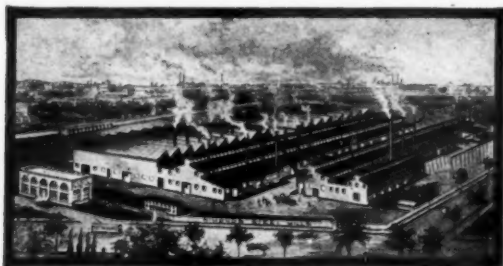
*Bulletin DC gives the necessary data*

## **The Conway Clutch Co.**

**West 6th Street,**

**Cincinnati, Ohio**

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SIMONDS SAW AND STEEL CO.'S

## Steel Mills

*"No one ever regretted  
buying steel quality"*

If you are interested  
in an unusually  
high grade

**HIGH SPEED STEEL  
POWER SAW BLADE**

Write us about

**SIMONDS**

**Red Streak  
Blades**



## Steel Quality

There's another big  
reason why the

# **SIMONDS Hack Saw B l a d e s**

wear longer.

Genuine Tungsten  
Steel Made in Our  
Own Steel Mill

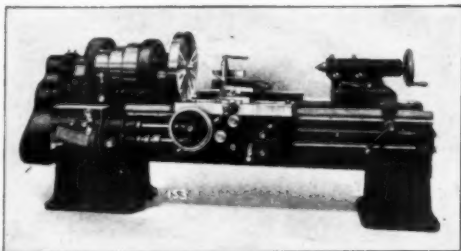
**Simonds Saw and Steel Co.**

**SAWS - FILES - TOOL BITS**

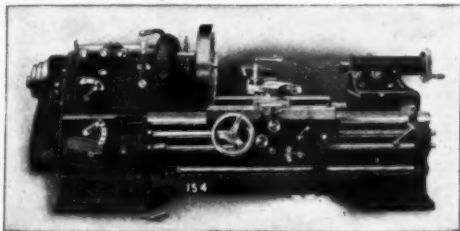
**Fitchburg, Mass.**

# Cincinnati Lathes

have demonstrated over 20 years in shops everywhere to give longest satisfactory service. Seldom you find them offered in second hand lists.



We furnish our latest lathes either Cone Type as in cut No. 153 or Geared Head type with single pulley belt drive as in cut No. 154 that may be converted over to motor drive at any time after installation. Sizes 16" to 32" furnished with standard or special attachments if required.



*Specify Cincinnati Lathes and be sure of the quantity also quality of work you produce.*

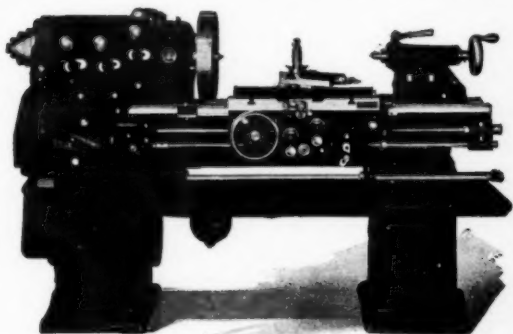
**The Cincinnati Lathe and Tool Co.**

3207-3211 North St., Oakley,

Cincinnati, O.

Modernize Your Lathe Equipment with

## Monarch Ball Bearing Helical Geared Head Lathe



Monarch Helical Geared Lathes combine speed (productive capacity), smooth work (no gear tooth marks), noiseless operation and an ease of handling (time saving), that has never heretofore been obtained.

The Helical Gears have  $3\frac{1}{2}$  teeth always in mesh. In operation they are noiseless, smooth and powerful.

Greater production is insured, because of the higher speeds obtainable and of the many operating conveniences.

*Glad to tell you how these modern lathes, from 14 to 30 in., increase production; how they are built; how the Monarch Dual-Control and other features save time. Write—*

### The Monarch Machine Tool Co.

Sidney, Ohio, U. S. A.

# Improved Design

THE CLEVELAND OPEN SIDE PLANER has fewer parts—easier control—greater accuracy—more all around efficiency. Entire driving mechanism is easily accessible and operates above the floor level, eliminating expensive foundations. All levers are reached from one position, saving operator's time and steps. It will pay you to investigate the CLEVELAND.

**The Cleveland Planer Company**

*Established 1900*

3148 Superior Ave., Cleveland, Ohio

*Send  
for  
Folder*

**Over**

**1100**

**Installations**

**26"  
to  
72"**



**The Open Side Planer with the Column  
Base Cast Integral with its Closed Top Bed.**



*speed with accuracy*

*that's*

**MONOTROL**  
**Geared Head**  
**LATHE**  
**Performance**

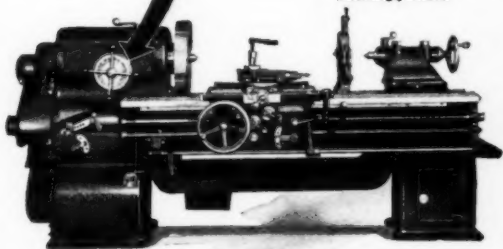
A headstock, where all gears are always in mesh, no clashing of gears—no stripping of teeth, shift one lever and obtain any spindle speed, with the spindle in motion.

Timken Tapered Roller Bearings together with the Sykes Herringbone Continuous Tooth Type Gears as used in Monotrol Headstocks assures a smooth and frictionless spindle operation at all speeds.

*Send for detailed information of  
Monotrol Lathes*

**The**  
**Sidney Machine Tool Co.**  
**Sidney, Ohio**

**SYKES GEARS**  
**99% efficient**



**Shift One Lever—Obtain Any Spindle Speed**



**TWO STYLES**  
**Three Step Cone and Geared Head**

**16" x 6' New Design     \$525.00**  
 Weight 1900 lbs.

**18" x 8' New Design     \$585.00**  
 Weight 2100 lbs.

3-step cone, double back gear, quick change gear, graduated compound rest, steady rest, lead screw and feed rod, tool post, centers, countershaft and wrenches, ready to run.

A lathe in the **INEXPENSIVE** class, for your shop equal to, in all respects, lathes of much higher price, having all their features:

**Alignment and Precision**  
**Speed in Production**  
**Ease of Operation**  
**Ability on all Work**  
**Low cost of Upkeep**  
**INEXPENSIVE COST to YOU**

Made in 16" and 18" swing from 6' to 18' length of bed. Either 3-step cone belt drive or All Geared 9-Speed Drive Head for 2 H. P. Motor.

*Write us for full information and **PRICES***

**The Rahn - Larmon Co.**  
 2943 Spring Grove Ave.,     **CINCINNATI, OHIO**

# This Drill Increased Production and Wages — and Saved

\$476.23

Per  
Year



A prominent valve  
manufacturer found,  
after a thorough trial  
of CLE-FORGE High  
Speed Drills, that the drills  
had accomplished three things  
for him:

1. They increased hole produc-  
tion per hole and per drill;
2. They reduced drill, machine and  
labor cost by 17%;
3. And, permitted the drill press oper-  
ator to earn 14½% more money.

CLE-FORGE High Speed Drills effected in this  
plant a net saving of \$476.23 per year. This saving  
amounted to about *five times the original cost of  
the drills used!*

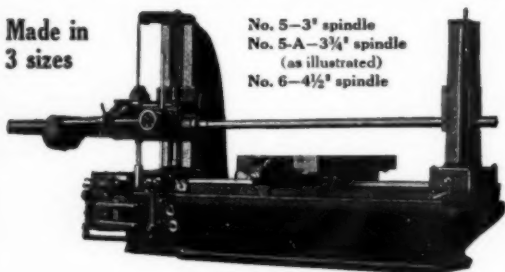
Full details of this interesting performance  
are contained in an eight page typewritten  
survey which makes interesting reading.  
We shall be glad to send you this survey  
upon request. Simply ask for Survey No. 58.

**The CLEVELAND** **TWIST DRILL**  
**CLEVELAND** **COMPANY**  
NEW YORK - CHICAGO - LONDON  
SAN FRANCISCO

TRADE MARK REG. U. S. PAT. OFF. AND FOREIGN COUNTRIES

# Wide Range and Efficiency

Made in  
3 sizes



No. 5—3" spindle  
No. 5-A—3¼" spindle  
(as illustrated)  
No. 6—4½" spindle

## Defiance No. 5-A Horizontal Boring, Milling, Drilling, and Tapping Machine

In designing these machines, range and efficiency were both considered, both provided for. Simplicity, great strength and ample power secure the operating conveniences necessary to handle the wide range of work with efficiency and profit.

### Four in One—And All Efficient!

Boring, Milling, Drilling and Tapping to meet every requirement of machine tool users where intensive production and precision work is a factor of importance. Objectionable features, such as complication and inaccessibility, have been carefully guarded against. The speed mechanism, feed mechanism and contents of the spindle housing are of unit construction, and each unit affords full access without disturbing parts of other units.

*Write for the descriptive folder, or for the complete Catalog of "The Defiance Line," of Cylinder Boring Machines, Heavy Service Drilling Machines, Rail Drills, Horizontal and Vertical Multiple Drilling Machines, Multiple Tapping Machines and Valve Grinding Machines.*

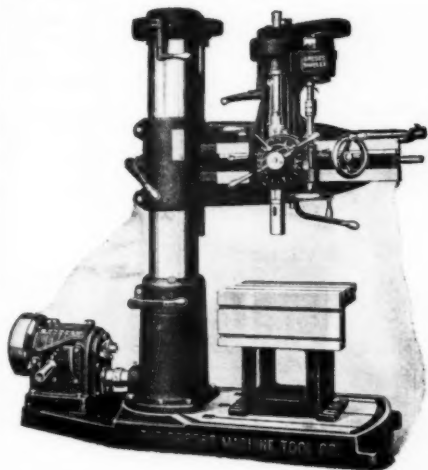
## The Defiance Machine Works Defiance, Ohio

Designers and Builders of Precision-Production Machine Tools and  
Special Woodworking Machinery

**2½ Ft. - \$1575.**

**3 Ft. - \$1675.**

## **Dreses Simplex Radials**



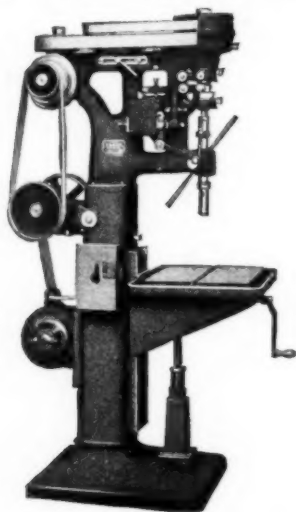
**We also build a complete line  
of Multi Duty Ball Bearing  
Radial Drills.**

**The Dreses Machine Tool Co.**  
CINCINNATI, OHIO

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# HAMMOND

## Drilling and Tapping Machines



*Write for Circular*

**The Hammond Mfg. Co.**  
7808 Kinsman Road,      Cleveland, Ohio



## No. 9 High Duty Single Spindle

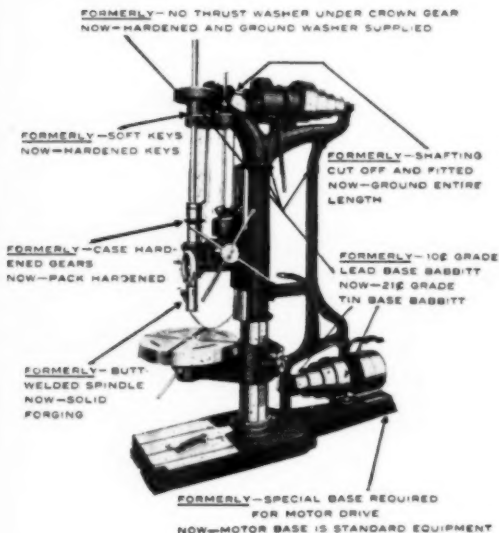
A single spindle Hi Duty Drilling machine that is capable of meeting the requirements of modern machine shop practice. Has a capacity of a 1½ inch drill in steel. Furnished with belt or motor drive.

*We are manufacturers of*

Standard Adj. Multiple	Drill Heads
Fixed Center Multiple	Universal Joints
Single Purpose Auto.	Quick Change Holders
Hi Duty Single Spindle	Rotary Tables
Horizontal Duplex	Fixtures
Drillers-Tappers	

**The National Automatic Tool Co.**  
Richmond, Indiana

# Better Aurora Drilling Machines Are Ready To Serve You



Four production shops have already purchased 117 Better Auroras. They'll satisfy your requirements also. Just make one purchase and settle all arguments.

---

## The Aurora Tool Works

3317 Colerain Avenue, Cincinnati, Ohio, U. S. A.

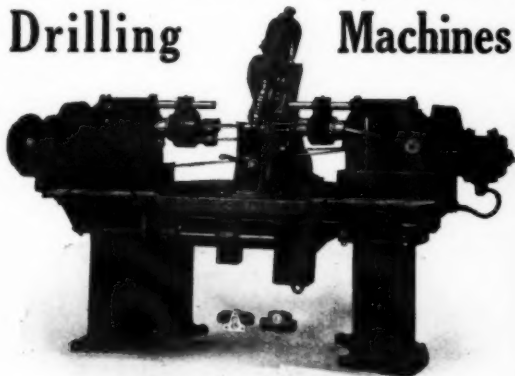
DIVISION OF THE OESTERLEIN MACHINE CO.



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**Increase Your Production**  
**By Using**  
**BRADFORD**  
**Drilling                      Machines**



Above Three-Way Machine drills three  $5/16''$ —two  $33/64''$  and one  $5/8''$  holes horizontally and one  $7/16''$  hole at 40 degree angle, simultaneously in shock absorber body at the rate of 100 pieces per hour.

*Send Us Your Drill Problems*

**The Bradford Machine Tool Co.**

**657-671 Evans Street**

**CINCINNATI, OHIO**

*Precision Lathe Builders Since 1840*

---

---

# Designed for High Speed Work

Ready for the Job



More  
Holes  
per  
Hour!

**C-O**  
**14-inch**  
**High-Speed**  
**Sliding**  
**Head**  
**Sensitive**  
**Drill**

**3,400**  
**to**  
**10,000**  
**R. P. M.**

Total height, 41".  
Vertical adjustment of head,  $7\frac{1}{2}$ ".  
Diameter of spindle,  $\frac{5}{8}$ ".  
Travel of spindle,  $3\frac{1}{4}$ ".  
Maximum distance of bottom of chuck  
to base table, 10" $\frac{1}{2}$ ".  
Size of base table,  $9\frac{1}{2}$ "x12 $\frac{1}{2}$ ".

Speed of spindle, 3,400-5,600-10,000.  
Largest size of drill, 5/16".  
Distance from column to center of sp.  $7\frac{1}{4}$ ".  
Size of sp. pulley,  $1\frac{1}{2}$ "-2 $\frac{1}{4}$ "-3"x1 $\frac{1}{4}$ " face.  
Bench space, 15"x20".  
Net weight, 180 pounds.  
Crated weight, 220 pounds.

*Complete Information gladly furnished*

## Canedy-Otto Manufacturing Company

Main Offices and Factory—Chicago Heights, Illinois

New York Branch  
407 Broome St.

Complete stock  
carried at branches

San Francisco Branch  
955 Folsom St.

# The Improved Canedy-Otto No. 29

Ready for the Job



3 Spindle Speeds  
720-1430-3000 R. P. M.

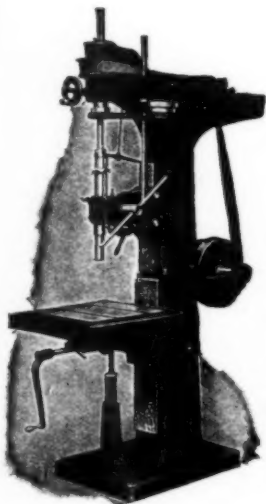
Completely  
Motorized—  
Also Furnished  
Belt Driven

The Improved Canedy-Otto Sensitive Bench Drill comes complete with toggle switch, cord, socket,  $1\frac{1}{2}$ " endless leather belt, and chuck. The motor is adjusted on a sliding base that maintains the proper tension on the belt at all times, and cuts lost motion and vibration to the minimum. Now equipped with a 3-step cone pulley which gives three spindle speeds of 720, 1430 and 3000 R. P. M. Complete information, with close price, upon request.

## Canedy-Otto Manufacturing Company

Main Offices and Factory—Chicago Heights, Illinois  
New York Branch 407 Broome St. Complete stock carried at branches San Francisco Branch 955 Folsom St.

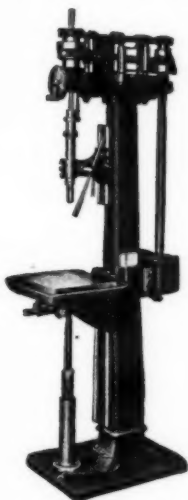
# The *Avey*



**Makes  
Big Jobs  
Look  
Small**

**The Avey Drilling Machine Co.**  
**CINCINNATI, OHIO**

**FOOTBURT**



## **A Single Spindle Footburt Sipp Sensitive Drill**

**Made in three  
sizes of single  
and multiple  
spindle models**

### **More holes with this machine**

**Why? Because you can change speeds in two seconds or belts in ten seconds—because the automatic idlers keep the belt pulling to capacity at all times—because the full ball bearing equipment and accurate machining gives a smooth, fast cut.**

*Write for No. 650 Folders*

**The Foote-Burt Company, Cleveland, O.**

**FOOTBURT**



## Threading at 3000 R. P. M.

These rods are being threaded with a No. 8-32 thread 5-16" long, at an average production of 1400 pieces per hour on our Standard High Speed Tapping Machine.



*How about your  
threaded work?*

**Leland-Gifford Company, - Worcester, Mass., U.S.A.**

### BRANCHES

BOSTON CHICAGO CLEVELAND

DETROIT NEW YORK

PITTSBURGH ROCHESTER

### AGENTS

Hendrie & Bolthoff

F. E. Salterline Company

Colcord-Wright Mch. & Supply Co.

Herberts Machinery & Supply Co.

F. F. Barber Machinery Co.

Denver

Minneapolis

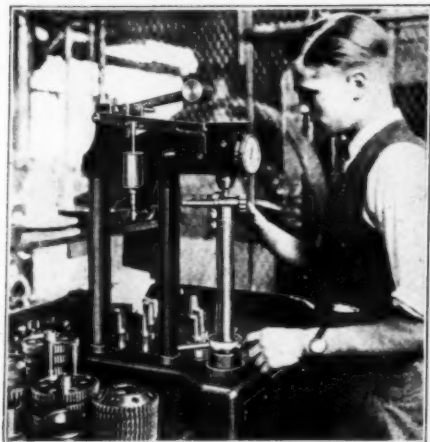
St. Louis

Los Angeles

San Francisco

Toronto

# LELAND - GIFFORD



# **11 ROCKWELL HARDNESS TESTERS**

are used on

## ***WHIRLWIND MOTORS***

At the Wright Aeronautical Corp., Paterson, N. J.

The first was installed April, 1926  
and the eleventh, September, 1928.

Over 3,000 Rockwells are now in use.

Specifications in Rockwell Hardness are  
understood everywhere.

**WILSON-MAEULEN CO.**

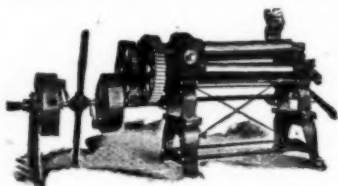
INCORPORATED

**735 East 143rd Street,**

**New York**

# BELOIT

**Punches—Shears—Bending Rolls**



*Initial Type*

## **Sheet and Plate Bending Rolls**

These Bending Rolls are built to fill the demand for strong, efficient and quick acting rolls for forming sheets and plates into cylindrical shapes. Adapted to the requirements of sheet metal and light plate working parts, and indispensable in any plant having a metal working department.

The modern design of this type makes it possible for the operator to curve plates completely to the edge, thus getting away from the undesirable flat near the edge of the sheet.

Strong, compact, easy to operate, conservatively rated and amply back geared to require the minimum of power.

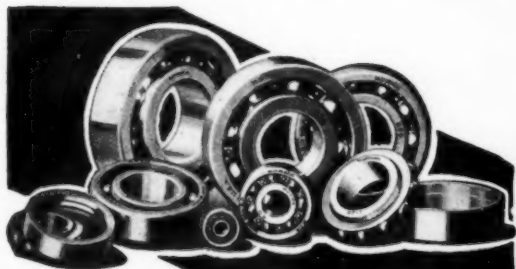
*Made in Initial Type, as shown above, or in Pyramid Type. We also make various types and styles of Punches and Shears. Write for complete descriptions.*

**Hendley & Whittemore Co.**

100 S. State St., BELOIT, WIS.

**PUNCHES—SHEARS—BENDING ROLLS**





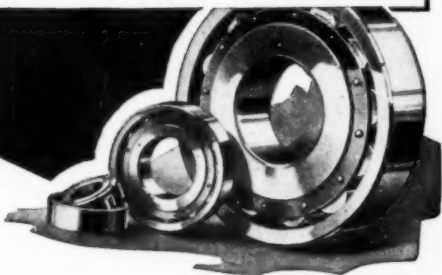
## **NORMA-HOFFMANN**

**P**RECISION Ball and Roller Bearings,  
built to meet the exacting require-  
ments of those with whom depend-  
able bearing performance is the one  
conclusive measure of bearing value.

*Catalogs 904, 905, and 917*

**Norma-Hoffmann Bearings Corp'n.**  
Stamford, Conn., U. S. A.

## **PRECISION BEARINGS**





## **RHODES Shaper and Slotter**

**Reduces Costs on Dies, Tools, Models,  
And All Kinds of Light Work**



**Figure your shaping and slotting requirements! Doesn't most of your work fall within the capacity of this machine?**

**The Rhodes has the essential features of larger machines in everything but size, and handles all work within its capacity with greater facility. Then, too, its costs of maintenance and operation are substantially less.**

*Ask your dealer or write for  
CATALOG H22*

**The Rhodes Mfg. Company**  
944 Park Road, -3- Hartford, Conn.

**SHAPERS—RHODES—SLOTTERS**

***“We have found it  
faster than an  
automatic  
machine”***



We offer the No. 2 Metal Cutting Saw Sharpener as a universal saw tooth grinder for shops and plants where the expense of installing an automatic unit is not warranted. It is so simple in operation and set up that with an average operator we have found it faster than an automatic machine.

It handles coarse and fine pitch metal cutting saws, inserted tooth and solid milling saws alternate bevel and straight teeth with equal efficiency. Its range with or without index is from 6" to 40" dia. *Furnished with or without motor drive.*

**Huther Bros. Saw Mfg. Co., Inc.**  
**Rochester, N. Y., U. S. A.**

# Illinois Plain and Surface Grinder

No.  
11



*Send for specifications of our No. 10 Plain and Surface Grinder—a general purpose grinder.*

**With Hand  
Feed Table  
and  
Cross Slide**

This machine has been designed to meet the demand of shops requiring an inexpensive grinder for surface grinding.

## **Special Features**

**Base:** Box type construction with liberal bearing surface for knee, insuring accuracy.

**Knee:** Supported by elevating screw having ball thrust bearing. Hand wheel graduated in thousandths. Long bearing on column.

**Spindle:** Made of High Carbon Steel, heat treated, and runs in four Timken tapered roller bearings with adjustment collars to each

bearing. Also furnished with Bronze Bearings if desired.

**Table and Cross Slide:** Have dovetailed ways and tapered gibs. Table working surface 24"x6".

**Countershaft:** Ball bearing with tight and loose pulley and belt shifting device. Loose pulley equipped with two ball bearings.

**Lubrication:** Alemite system for spindle and countershaft.

*Write for Complete Specifications and Prices*

**Illinois Machine & Mfg. Co.**  
**LaSalle, Illinois**



## **Grand Rapids Combination Twist Drill & Tap Grinders**

**Drills and Taps Sharpened  
on a Grand Rapids Grinder**

**Cut Faster — Stay Sharp Longer  
Produce More and Better Work**

*BULLETIN ON REQUEST*

**Gallmeyer & Livingston Co.**

**342 Straight Ave. S. W.,**

**Grand Rapids, Mich.**

# **PEERLESS SURFACING MACHINES**

*for*  
**Grinding and Finishing  
Flat Work**

**4' Bench  
Model**



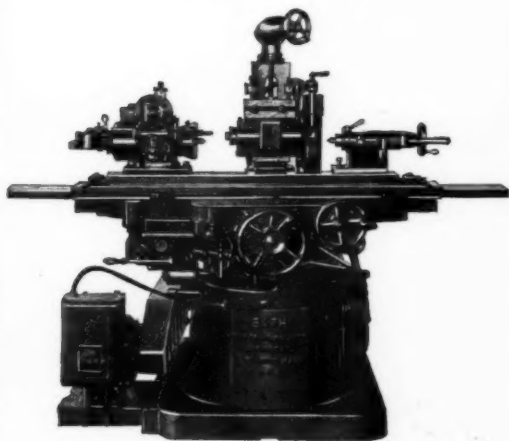
**Larger Machines in Both  
Horizontal and Vertical Styles**

*SEND FOR FOLDER*

**PEERLESS SURFACING MACHINE CO., Inc.**  
**TROY, N. Y.**

# BATH Universal Grinders

SELF CONTAINED



10"x25"

12"x36"

also

**Plain Cylindrical, Valve Seat  
and Tappet Grinders**

**Fitchburg Grinding Machine Corp.**

**Fitchburg, Mass., U. S. A.**

# GATERMAN

## No. 10 Heavy Duty Pneumatic Oscillating Tapping Machine

**Also recommended for Multiple Head Tapping**

Used by leading automobile manufacturers—Cadillac, Packard, Nash, Ford, Chevrolet, Reo, Hupp, etc.—to obtain maximum production. Send for folder giving more complete list and data.



*Send samples or blue print. Our engineering department will be pleased to quote guaranteed production estimates and prices.*

**For lighter Tapping Equipment write for literature "LET AIR DO IT."**

**W. GATERMAN MFG. CO., Manitowoc, Wis., U.S.A.**

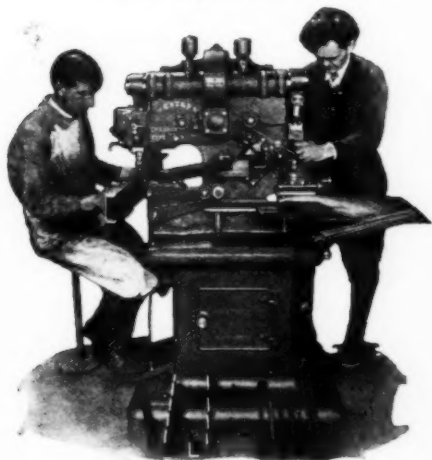


**JUST WHAT YOU HAVE BEEN LOOKING FOR**

**A direct connected motor driven**

## **METALWORKER**

**built with the same careful precision  
as a high grade machine tool**



**PATENT APPLIED FOR**

Will cut, in soft steel, Flats  $\frac{5}{16} \times 3'$ , Rounds up to  $\frac{3}{4}"$ ; Squares up to  $\frac{5}{8}"$ ; Angles,  $90^\circ$ ,  $\frac{1}{4} \times 2'$ , T Iron,  $90^\circ$ ,  $\frac{1}{4} \times 2'$ ; Miter Cut Angles,  $45^\circ$ ,  $\frac{3}{16} \times 2'$ ; Shear plates up to  $\frac{1}{4}"$ ; Notch angles  $\frac{1}{4} \times 2'$ , Punch  $\frac{5}{16}$  hole in  $\frac{1}{4}"$  metal, or equivalent. Frame highest grade Plate Steel with Cast Iron parts cast integral with frame. Equipped with  $\frac{3}{4}$  H. P. Motor direct connected, through worm gear reduction unit, to working parts. All working parts enclosed and self lubricated. Clutch operated either by hand or foot and may be operated continuously or intermittently as desired. Guards, adjustable strippers, and length gauges regular equipment.

**AGENTS WANTED IN OPEN TERRITORIES**

**SHAW-PALMER-BAKEWELL CO.**

**LOS ANGELES, CALIFORNIA**

**409-11 East 3rd Street**

**Faber 4621**

# Lewis Seam-Welding Head

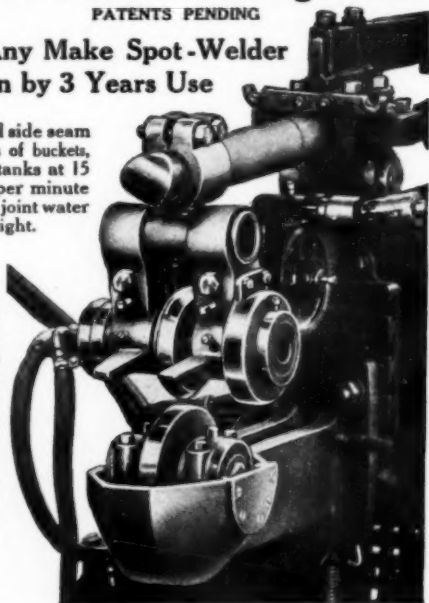
PATENTS PENDING

**Fits Any Make Spot-Welder  
Proven by 3 Years Use**

Will weld side seam or bottoms of buckets, pails or tanks at 15 to 25 ft. per minute and make joint water and gas tight.

One user has made over 1½ million 3 inch lap joints and then nickel plated the piece.

*You can't find the joint.*



No structural change is necessary to your spot welder—simply clamp the Lewis Welding Head to the upper horn. Remove lower horn and bolt on the proper electrode for either transverse or longitudinal welding. Please note the electrode "drive" is a separate unit and NOT attached to spot welder.

Let us send you our bulletin No. 128 which gives interesting information on seam welding in general and *This Proven Seam Welder in Particular.*

## **Welding Appliance Co.**

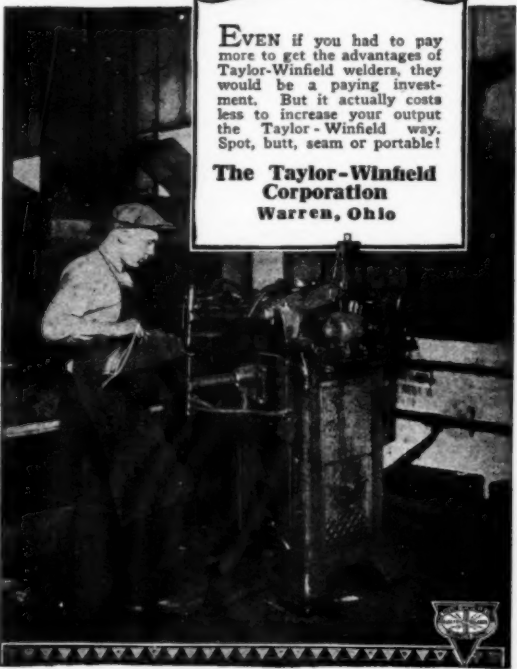
**2111 West Lake St., Chicago, Ill., U.S.A.**

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# TAYLOR-WINFIELD WELDERS

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**EVEN** if you had to pay more to get the advantages of Taylor-Winfield welders, they would be a paying investment. But it actually costs less to increase your output the Taylor-Winfield way. Spot, butt, seam or portable!

**The Taylor-Winfield  
Corporation  
Warren, Ohio**





**N**EEDED for constant reduction in finishing has widened the field of ball burnishing unbelievably. Twenty years ago ABBOTT ball burnishing barrels were accepted as the ideal means of finishing small work such as buttons, buckles, etc. To-day improved ABBOTT barrels are producing results on stampings, spun and threaded work, castings and forgings—on safety pins and safety razors.

*Let us submit a burnishing analysis  
on your work. Send samples.*

**The Abbott Ball Company**  
1043 New Britain Ave., Hartford, Conn.

Taylor & Fenn Belt Driven  
**No. 12 Spring Press**



**UNIFORM BLOW  
SPRING PRESSES**

Are made in  
three sizes,  
with either  
single or  
double action

Our No. 12 Belt Driven Spring Press, illustrated above, has a stroke of  $3\frac{1}{4}$  inches. The foot treadle operates a safety clutch attached to the flywheel, which automatically stops the machine after each stroke regardless of whether the treadle is released or held down by the operator. The clutch can be adjusted for a continuous stroke if desired.

*Descriptive circular gladly sent upon request*

**The Taylor & Fenn Co.**  
Hartford, Conn., U. S. A.



# A RAPID FIRE FILER

*Sharp Saws  
At 5¢ Each*

That is all it  
costs when  
**RESHARPENED**  
on this machine

**SAVES TIME  
REDUCES WORK  
ADDS EFFICIENCY**

## *That's Why*

Amer. Brass have.....	19
Continental Fibre.....	28
Formica Insulation.....	10
and over 100	
Newspapers use them	

## **The Model J**

at a speed of  
**70 TEETH A MINUTE**  
sharpens all medium,  
soft or spring tempered  
**CIRCULAR SAWS**  
up to 18" in diameter  
Teeth from as small as 32 to  
1" up to 1/2" spacing.

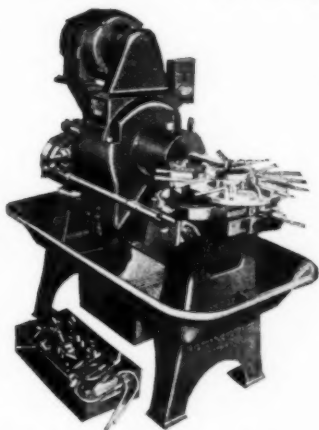
*Write for Catalog*

## **THE WARDWELL MFG. CO.**

Makers of automatic machines for sharpening—Hack Saws, Hard Tempered Band Saws, Milling, Slitting and Screw Slotting Saws and all Woodworking Saws.

Manufacturers of the largest line of Saw Filers made in U. S. A.  
**108 Hamilton Ave., CLEVELAND, OHIO**

# "Thread It Separately"



That's the  
Modern Way  
Up-to-Date  
Plants  
are  
Saving  
Money

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The  
Machine  
to Use?

The

## Rickert-Shafer Automatic Single-Purpose Threading Machine

Production time on automatics is always governed by the time of the longest operation—threading. To get more out of expensive automatics the trend in modern plants is to do the threading on low-priced single machines. To cover this field we have designed a full line of Rickert-Shafer Threading and Second Operation Machines, made in single and double spindles—magazine, hopper or hand feed. Adaptable to almost every job of threading, from the simplest to the most complicated. Combination tools can be supplied so that chamfering, reaming, facing, etc., can be done simultaneously with the threading and with but one chucking.

*Send for complete details, or estimates of your  
work threaded on one of these machines*

**RICKERT-SHAFFER CO., Erie, Penna.**

# Type RF-M4 Machine



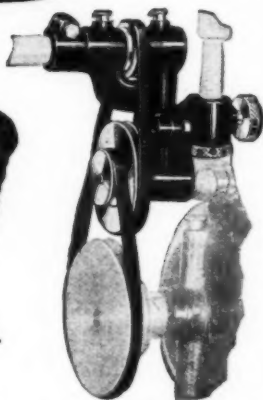
**Strand**

Capacity— $\frac{1}{4}$ H.P.

For  
Rotary Filing  
Grinding  
And  
Polishing

10,000 R. P. M. Attachment Furnished Extra when Required. See Illustration.

## Attachments



**N. A. STRAND & CO.**

*Manufacturers*

5001 No. Lincoln Street  
CHICAGO

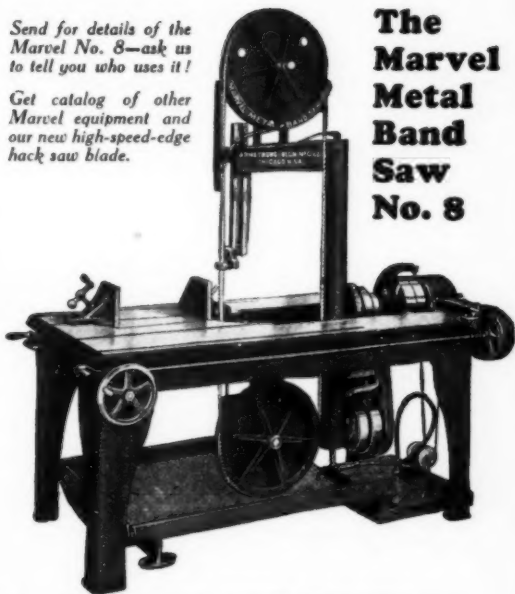
PATENT APPLIED FOR



*Send for details of the Marvel No. 8—ask us to tell you who uses it!*

*Get catalog of other Marvel equipment and our new high-speed-edge hack saw blade.*

## **The Marvel Metal Band Saw No. 8**



### **Investigate and Know—**

why many well known plants are so completely satisfied with results obtained on the Marvel Metal Band Saw No. 8.

Among other advantages it offers ball bearing band wheels, ball bearing blade guide rollers, ball bearing blade frame carriage, big roomy bed or work table, three cutting speeds, a pump for projecting cutting compound—increasing blade life—a cut stop that can be set at any point desired, NEW adjustable blade pressure that indicates the feed pressure on the blade in POUNDS, and the ability to cut at any angle to 45°. Capacity up to and including 18".

**Armstrong-Blum Mfg. Co.**

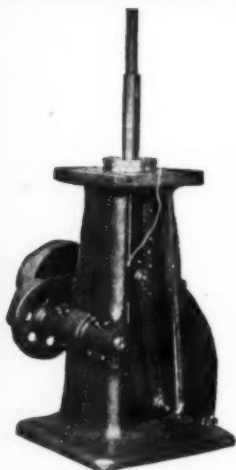
341 N. Francisco Ave.,

CHICAGO, ILL.

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# 1 Keyseat — or 1,000 Use the Rapid CATLIN

---



The picture above shows the No. 1 CATLIN, belt driven, with three step cone pulley. Our other sizes, for belt or motor drive, cover practically all keyseating requirements. Send for the Catalog describing these time and money saving machines.

**W**HETHER you need one keyseat or a thousand, the rapid CATLIN will cut them to even better than 1000th of an inch accuracy. On some classes of work it is possible to keyseat piece after piece without clamping down the work or stopping the machine.

## Speed with Accuracy

**I**N ordinary shop practice, without any effort at record making, the CATLIN has cut a keyseat 10" long, 1½" wide and 7/16" deep in a cast iron hub, in three minutes. In cast steel it has cut a keyseat 6" long, 1" wide and 7/16" deep in three minutes.

*Write today for the Catalog*

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**Chattanooga Machinery Company**  
2401 Bennett Ave., Chattanooga, Tenn.

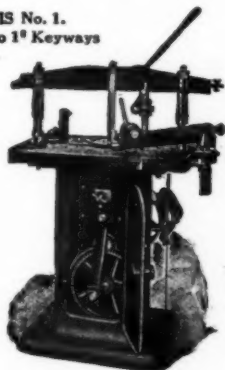
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# Speedy Keyseating

On a Great Variety of Work—

## The "Davis"

DAVIS No. 1.  
Cuts  $\frac{1}{16}$ " to 1" Keyways



Built in two sizes

*The Davis Keyseater is profitably used on quantity production of standard parts; yet it is so versatile and lends itself to such quick set-ups, that it is indispensable for the mixed runs of every day job work.*

*It occupies little floor space and gives such service cutting keyways, oil-slotting and grooving pulleys, gear blanks, bell cranks, crank handles, etc., that it soon pays for its moderate cost. You'll wonder how you ever got along without a "Davis."*

*The table of cutting time tells the story*

**Davis Keyseater Company**

255½ Mill Street,

Rochester, N. Y., U. S. A.

# Etchograph

Trade Mark



Patented July 8, 1918  
Patent No. 1,309,169

## Time Saving

Using the original ETCHOGRAPH enables you to mark your tools or parts in *one-fifth* the time other methods require. No acids—no fuss—write as if with a pencil. Six stages of heat give you six variations in the size of marking—an advantage no other machine can offer.

*Write for complete details, stating power available*

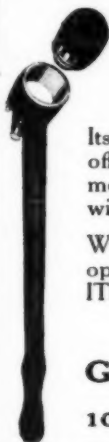
**William Brewster Company**  
50 Church St., New York



**Avoid  
Skinned Knuckles  
and  
Wasted  
Time**

caused by the old fashioned open end wrench.

Time wasting motions avoided with the



## **FAVORITE Reversible Ratchet WRENCH**

Its socket form of head cannot slip off the nut, and its quick ratchet movement turns the nut rapidly without the usual lost motion.

Why plug away with the old fashioned open end wrench when the FAVORITE wrench means real economy.

*Built Strong to Stand Rough Usage*

**Greene, Tweed & Co.**

**Sole Manufacturers**

**109 Duane St.,**

**New York**

# **KAster-IZE**

## **Your Factory Trucks**



### **Pioneer Truck Casters**

**will move your product with  
the least possible effort**

They are practically indestructible and will render long and continuous service.

Most Durable—Economical and Efficient casters on the market. Made in many sizes, Anti-friction Steel Roller Bearing—Ball Bearing—Double Wheel and Stationary patterns.

A Caster for every purpose.

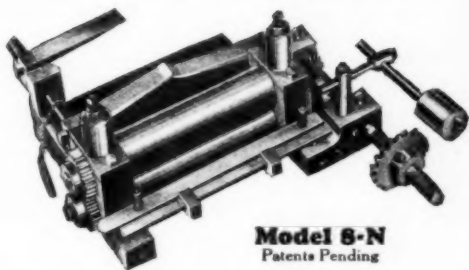
Complete illustrated catalog on request—interesting prices.

*Write today for full Information—  
No obligation*

**Pioneer Caster & Mfg. Co.**  
**Elkhart, Indiana**

# **Automatic Reversible ROLL FEED**

## **For Any Punch Press**



**Model 8-N**  
Patents Pending

A universal, flexible feed, for automatically feeding Metal, Paper, Leather, Brake Lining, or any stock from coils—from wire to 8" widths and lengths of 0" to 36" at each stroke of the press at rated catalog speed or faster.

This feed mounts on either right or left side of the Bolster Plate, either as a Push or Pull feed. May also be mounted in tandem, one on the right and one on the left as a Push-Pull feed for paper or light stock.

The drive is by chain from a sprocket on the crank shaft, using any sprocket ratio desired.

PRICE \$195.00 F. O. B. Chicago

**Wittek Manufacturing Co.**

DEPT. 3

**2532 So. Kedzie Ave.,**

**Chicago, Ill.**

# Genesee Hollow Mills

With Adjustable Replaceable Blades  
Are Productive, Accurate, Economical



**PRODUCTIVE**—because their seven sizes cover the entire range from  $\frac{1}{8}$ " to 2", and machine all sizes within their capacity to 1000ths of an inch.

**ACCURATE**—because the hollow mills cannot change in size or clog with chips as do solid tools. They can be ground to any angle required to point work or turn sharp tapers.

**ECONOMICAL** to buy, because one Genesee Hollow Mill covers several sizes—economical in upkeep, because they outlast from five to seven ordinary tools; then too the blades are replaceable at a small cost—economical in operation, because they give a maximum efficiency, cutting up to 15" a minute in steel, or to capacity of machine.

*Send for detailed information*

**Genesee Manufacturing Co., Inc.**

141 North Water Street, Rochester, N. Y.

Manufacturers of Genesee Rapid Production Tools.

Est. 1908



# If Figures Talk—



Here are  
some  
about the  
**Reynolds**  
**Magazine**  
**Feed Screw**  
**Driving**  
**Machine**  
that merit  
**YOUR**  
**attention**

Showing Magazine Feed of the Reynolds Automatic

Experienced operators can drive from 16,000 to 20,000 screws per day.

Apprentices can drive from 6,000 to 10,000 screws per day.

1 machine does the work of 5 men using hand methods.

With average use, the REYNOLDS pays for itself in 3 or 4 months.

Savings of 65 to 85% are commonly reported.

Reduces the number and sizes of screws needed.

*Drop us a line, giving dimensions over all of your work and length and gauge of screws used. We'll send further facts and figures that may surprise you.*

**The Reynolds Machine Company**

**Dept. H. H.,**

**Massillon, Ohio**

## No. 10 Ball Bearing Punch



Capacity  $\frac{3}{8}$ " thru  $\frac{1}{4}$ " Iron  
Weight, 8½ lbs.

## No. 8 Roller Bearing Punch



Operating handles will not  
become disengaged.

CAPACITY— $\frac{1}{4}$ " hole thru  $\frac{1}{4}$ "  
iron. Weight, 16 lbs.

Made in 3 sizes: Nos. 7, 7½ and 8.

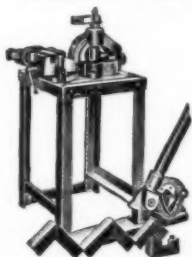
## No. 20 Ball Bearing Punch



Capacity,  $\frac{1}{2}$ -inch hole  
through  $\frac{1}{2}$ -inch iron

Weight, Complete  
20 lbs.

## Angle Iron Combi- nation No. 455



Shears, Notches and Bends  
a 2-inch by 2-inch by  $\frac{1}{4}$ -  
inch Angle Iron in One  
Minute Flat.

## No. 6 Slitting Shear Roller Bearing



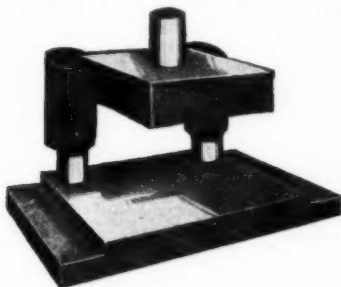
Capacity  $\frac{7}{8}$  thickness. Throatless  
Drop Forged

*Write for Catalog and Price List on Entire Line*

**Whitney Metal Tool Co.**  
95 Forbes Street, Rockford, Illinois

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# Have YOU Tried the



New  
U. S. Tool  
Steel  
Base  
Sub-  
Press

?

## A Trial Will Prove Its Value

**Y**OU can put your costly dies through the toughest kind of service and be sure of perfect work without injury to the dies if they are mounted on U. S. Tool *Steel* Sub Presses.

**R**IGID inspection insures exact *initial* alignment. The surplus strength of U. S. Tool *Steel* Sub Presses prevents any distortion and maintains exact alignment of the plunger and steel base under the heaviest production strains.

## 9 Big Features—

1. Surplus strength prevents breaking.
2. Ruggedness prevents distortion.
3. Exact alignment—always.
4. Self-lubricating.
5. Extra wide base.
6. Larger die space.
7. Two styles cover all requirements.
8. Price no higher than ordinary sub presses.
9. Quick shipment from large stock.

*Send for Complete List of Styles and Prices*

**U. S. Tool Company, Inc.**  
AMPERE, N. J.

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**DANLY**  
STANDARD

**DIE MAKERS'  
SUPPLIES**

**DANLY  
SERVICE**

**Immediate  
Delivery  
From Stock**

## **From Stock**

**Die Sets**

**Dowel Pins**

**Springs**

*(Pressure Pad, Knock-  
Out, Stripper Plate)*

**Stripper Bolts**

*(Socket & Fillister Head)*

**Socket Head Cap  
and Set Screws**

**Leader Pins and  
Bushings**

**Machine Clamps**

*Write for new issue of  
catalogue, a valuable  
book, no obligation.*

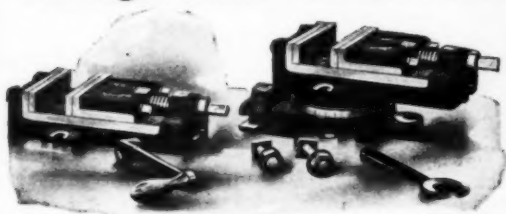
**DANLY MACHINE SPECIALTIES, INC.**

**2116 So. 52nd Ave., Chicago, Ill.**

**Detroit, Mich.  
1549 Temple Ave.**

**Long Island City, N. Y.  
36-12 34th St.**

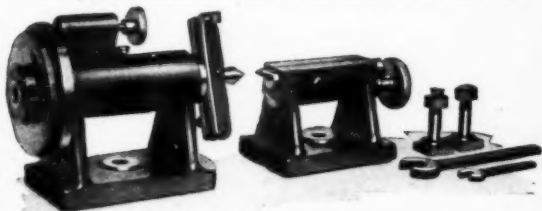
## "Straight Line" Milling Machine Vises



Swivels 180° Either in a Horizontal or Vertical Plane.  
**STRONG — DURABLE — ACCURATE**  
Made in Four Sizes

Ordered repeatedly by leading machine tool users for accurate heavy duty milling. Interchangeable parts.

## Adjustable Dial Index Center



With work dogged between centers, and latch pin in, the dial can be turned to bring work in position where wanted as to relation with machine cutter or emery wheel, then bound to start indexing from such setting. Regular dial is drilled for three and four stations. Can be used for re-cutting or grinding flutes in taps and reamers or teeth in cutters.

### Also Manufacturers Of

Double end horizontal drills, milling machines and attachments, dividing heads, index centers, single and multiple spindle, hand screw machines, cutter grinders, screw slotters, hand lathes, collet chucks, oval chucks, rotary tables, hex-square milling fixtures.

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**JOHN B. STEVENS INC.**

25 Cleveland Place,

NEW YORK CITY

# SHELDON MILLING MACHINE VISES



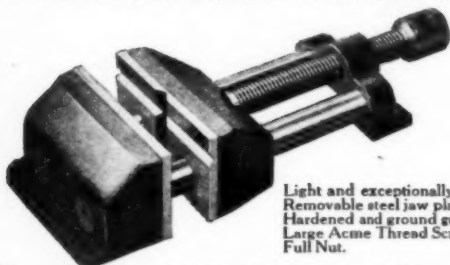
**Plain or  
Swivel Base**

The swivel vise is the plain vise with the addition of a circular base, graduated in degrees. It can be removed from the circular base and used as a plain vise if desired.

## Specifications and Prices

No.	Width Jaws	Depth Jaws	Jaws Open	Plain Vise		Swivel Vise	
				Weight	Price	Weight	Price
3	3 1/2"	1 3/4"	2 1/2"	15 lbs.	\$16.00	25 lbs.	\$20.00
4	4 1/2"	1 3/4"	3 1/2"	30 lbs.	\$20.00	45 lbs.	\$24.00
6	6 1/2"	2"	4 1/2"	70 lbs.	\$30.00	90 lbs.	\$40.00
8	8 1/2"	2 1/2"	6 1/2"	160 lbs.	\$45.00	225 lbs.	\$60.00

# SHELDON DRILL PRESS VISE



Light and exceptionally strong.  
Removable steel jaw plates.  
Hardened and ground guide bars.  
Large Acme Thread Screw.  
Full Nut.

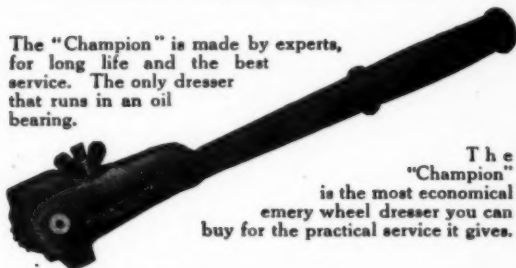
No.	Width of Jaws	Depth of Jaws	Jaws Open	Weight	Price
D-4	4 1/4"	1 1/4"	4"	15 lbs.	\$12.00
D-6	6 1/2"	1 3/4"	6"	35 lbs.	\$18.00
D-9	9"	2 3/4"	9"	70 lbs.	\$24.00

**SHELDON MACHINE CO.** 3251 Cottage Grove Ave., CHICAGO, ILLINOIS

# "Champion" Emery Wheel Dresser

Outlasts a Dozen Cheaper Dressers

The "Champion" is made by experts, for long life and the best service. The only dresser that runs in an oil bearing.



The "Champion" is the most economical emery wheel dresser you can buy for the practical service it gives.

The *cutters* are made of a special steel, heat-treated and tempered by a special process.

The *sleeve*, furnished with each set of cutters, revolves on the spindle and the cutters in turn revolve on it, providing a more perfect bearing for the cutter wheels.

The patented *spindle bearing*, which is made of steel and thoroughly hardened, serves as a bearing for spindle and a guide for cutting wheels, and it cannot turn in the handle; makes wobbling impossible.

The patented *handle* is heavy and strong, designed for long service, efficiency and economy.

The patented *handle cap* eliminates the old-fashioned set screw and serves as an upper-clamp for spindle bearing. Further, there are no moving parts. On account of absence of wear, the life of handle and handle cap is indefinite.

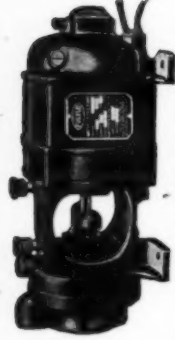
## Our Catalog also describes

Champion Tool Holders, Champion Expanding Mandrels, Machinists' Vises and Clamps, etc., and our large line of practical, hard-to-beat Shop Furniture. Copy upon request.

**The Western Tool & Mfg. Co.**  
SPRINGFIELD, OHIO



GRINDER PUMP



MOTOR DRIVEN UNITS  
1/4 to 5 H. P. 5 to 75 G. P. M.

## VOLUME PUMPS

60 **FULFLO delivers** coolant in volumes which promotes efficiency in cutting tools.

**The full, copious flow** from the Fulflo is needed to make the best tool, with the best coolant, most effective.

**FULFLO does not clog**, therefore it always

works. **It's the trouble proof pump.**

**No machines stopped** to unclog pump. All the chips you can get into it pass through without harm.

**FULFLO has longest life** because its only pumping part does not wear.

MANUFACTURED BY

**FULFLO SPECIALTIES CO.,      BLANCHESTER, OHIO**



**Leading  
Machine Tool  
Manufacturers**



**Model T-L-O**

**Are Using**

**“Gusher  
Pumps”**

**There Must Be  
A Reason**

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*Write for complete Catalog of “Gushers,”  
with facilities from 12 to 75 gallons per minute,  
belt or motor drive*

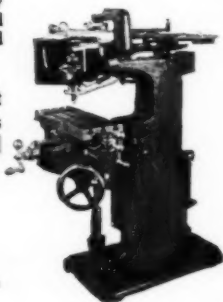
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**The Ruthman Machinery Co.**  
528-534 E. Front St.,      CINCINNATI, OHIO

# Universal Die Sinking and Engraving Machines

designed to save time and money  
on the production of light and  
heavy dies, molds, stamps and  
general engraved work—

in brass, steel or cast iron. Built  
by a firm having over thirty years  
of experience, having equipped  
many prominent work-shops.



*Catalog sent on request*

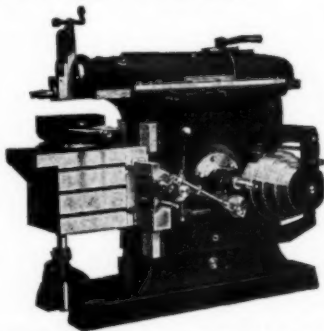
**George Gorton Machine Co.**  
Racine, Wisconsin

## SHAPERS

12", 14", 16"  
Plain Crank,  
16", 20", 25"  
B. G. Crank,  
either Cone  
Driven or  
through Speed  
Box.

Belt Shifter  
Regular Equip-  
ment All Cone  
Driven Shapers.

32" Back Gear-  
ed Crank, Sin-  
gle Pulley  
Drive.



**The Smith & Mills Co., Cincinnati, O., U.S.A.**

# DO YOU KNOW

about this NEW C. & J. LATHE?



**15/16-inch  
Geared Head  
Motor Drive**

LET US SHOW how it meets MODERN needs  
**Carroll & Jamieson Machine Tool Co.**  
 Batavia, Ohio

## The NEW HAMILTON



## LATHES

are unsurpassed for strength and accuracy. Most convenient heavy duty quick change gear lathes for production and tool room use. Single and double back gear with cone drive. Geared head with belt and motor drive.

**Sizes 16"-18"-20"-22" and 24"**

*Send for new catalogue bulletin*

**The Hamilton Tool Co., Hamilton, Ohio**

# ***IXL GEARS***



***All Sizes  
and Types  
for Every  
Requirement***

send for  
660 Page Catalog  
"Gear Problems"

**FOOTE BROS.  
GEAR & MACHINE CO.**  
229 N. Curtis St., Chicago

over  
60,000  
different patterns

your "special"  
Problem  
may be a  
Standard  
one with  
us

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**MASSACHUSETTS GEAR & TOOL CO.**  
**MAKE GEAR GOOD**



### **ALL TYPES:**

**Spurs, Internals, Bevels,  
Mitres, Helicals, Spirals,  
Worms, Worm Gears,  
Sprockets, Ratchets.**

### **ANY MATERIAL:**

**Steel, Cast Iron,  
Brass, Bronze,  
Aluminum, Fibre,  
Bakelite, Rawhide.**

Made in Small and Medium Sizes, all of One Quality—the very best. We also carry a full line of Stock Gears for immediate delivery. *Write us.*

**MASSACHUSETTS GEAR & TOOL CO.**  
**36 Nashua St., Woburn, Mass.**

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## SUPREME SERVICE



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of Lathes embodies the highest standards of Quality and Workmanship. *Catalog on request.*

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## Universal Joints

In Steel and Bronze



*Send for Special Circular giving specifications  
and prices on complete line*

## STANDARDIZED BOSTON GEARS

BOSTON GEAR WORKS SALES CO.

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BOSTON NEW YORK PHILADELPHIA CLEVELAND CHICAGO

## Sensitiveness and Precision

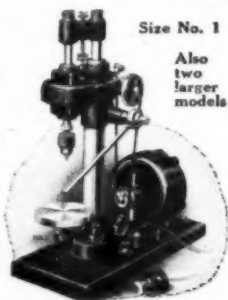
are the leading characteristics of

### The A. M. Sensitive Drilling Machine

A self-contained, mobile bench unit of vertical type that can be used for a variety of operations coming within its capacity. Its prime purpose is drilling from .010" to sizes that can be handled on the ordinary drill press. Also adaptable for reaming, chamfering, counter-boring, burnishing, damaskeening and some classes of end milling. Economies effected by its use seldom fall under 25% and often production is doubled. Three sizes, unconditionally and permanently guaranteed against any defect.

Write for Booklet "C"

**ADOLPH MUEHLMATT**  
434-436 Elm St., Cincinnati, Ohio

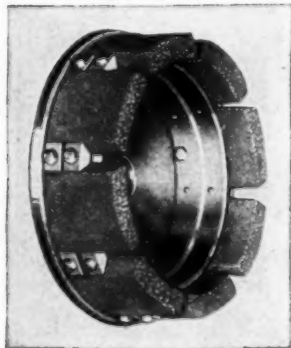


Size No. 1

Also  
two  
larger  
models

## NEW ROGERS

### Segment Grinding Wheel



14" Rogers Chuck

## CHUCK

To facilitate faster grinding we announce a new grinding wheel chuck. The outstanding feature is the simplicity of construction, the chuck being so constructed that it can be used on face or surface grinders of any make. Adjustments for changing segments are very simple.

The chuck is now made in 3 sizes, 12", 14", and 18".

We also make a complete line of light face and knife grinders up to 13" capacity.

**SAMUEL C. ROGERS & CO.**  
211 Dutton Ave., Buffalo, N. Y.



## Die Making Machines

save an average of 50%

Dies, templets, experimental parts, gages and the like can be sawed, filed and lapped on the Oliver of Adrian Die Making Machine much easier, more accurately and in a fraction of the time ordinarily required for handwork.

*We also manufacture a line of*

Point Thinners.

Drillpointers.

Cutter Grinders



*Send*

*for*

*Bulletins*

**Oliver Instrument Company,** 1408 Maumee St.,  
ADRIAN, MICH.

## GEARS

### All Kinds—Small



The most accurate made and prices reasonable. We carry a complete line of gears in stock for immediate shipment. Can also quote on special gears of all kinds. Send us your inquiries.

*Write for Catalogue No. 70*

**CHICAGO STOCK GEAR WORKS**  
105 South Jefferson Street, Chicago, Ill.

# MIKRON



**AUTOMATIC  
SMALL PRECISION**

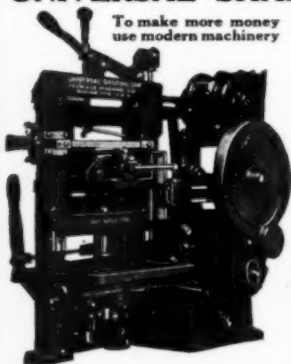
**Gear Hobbers  
Gear Cutters  
Pinion Hobbers  
Thread Millers  
Hob Grinders**

*Catalogs On Request*

**Triplex Machine Tool Corp.**

**50 Church St., New York City**

## —PEERLESS— UNIVERSAL SHAPING SAW



**To make more money  
use modern machinery**

**Different Principles  
Greater Efficiency  
Give The Most Of—  
Speed  
Accuracy  
Blade Economy**

**SIZES:**

**6"x6" -- 9"x9" -- 13"x13"**

**PEERLESS**

**HIGH SPEED HACK-SAWS**

**6"x6" 9"x9" 13"x16"**

**Sturdy--Efficient--Reliable**

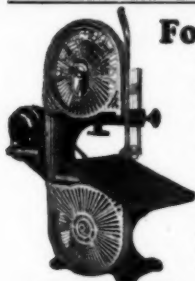
**Peerless Machine Co.**

**1218 Sixteenth St.**

**Racine, Wisconsin**

*Write for Details*





## For Any Cutting Job

You can handle all small cutting jobs in wood and metal to advantage with the Racine Duplex Band Saw.

This is essentially a quality tool. It is accurate to a fine degree and so sturdily built it will last for years.

*Write for literature that outlines the work you can do with the Duplex Band Saw.*

**Racine Tool & Machine Co.**  
1419 Junction Ave., Racine, Wisconsin

# RACINE

## METAL CUTTING MACHINES

### Machine Steel Discs From Stock or Cut to Order!



Phone, wire or write, and your order will be

***Shipped Promptly***

We can supply any size

Machine Steel Discs from 1" to 12" in diameter, one inch and wider and in any quantity from one to a thousand or more. This new service will save you time and money.

*Writing us for quotations places you under no obligation*

**PASSMAN BROS., 707 Washington Blvd., Chicago**  
**Telephones: Monroe 6960—6961**

## "Saved Its Cost the First Month"



That was the interesting—and profitable—experience of one of the users of the

### "CANTON" Portable Crane, Hoist and Truck

"The Portable Floor Crane has proven the best investment we ever made. We believe we saved its cost the first month we used it. Our big saving has been in the handling of our heavy die blocks in our machine shop, as one of our helpers can now with ease *do the work of 6 to 8 men.*"

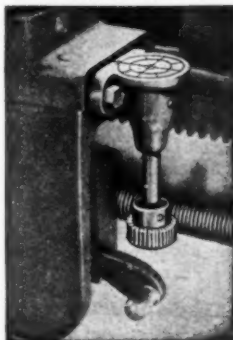
*Write for Interesting Booklet showing the several sizes*

**CANTON FOUNDRY & MACHINE CO., Canton, Ohio**

New York Office: 101 West 31st Street

## E-Z THREAD DIAL

Thread cutting on engine lathes made easy, and at lower cost. Made in four sizes. Can be easily attached to all size lathes. A reliable device that will aid the operator in the work of cutting threads. With it threads can be cut close up to shoulders as easily as the ordinary thread.



Eliminates stopping or reversing the lathe.

The many repeat orders received prove it is satisfactory after trial.

Can be shipped within two days after receipt of order.

Sent on thirty days' trial. Send for latest folder today.

**JAMES M. COLVEN, 20 Wolfe Street, Yonkers, N. Y.**

## Accuracy—Speed—Efficiency "HOPKINS" 3-Jaw Chuck



"HOPKINS" original design, selected materials and the Dust-Proof feature guarantee continuous production at lowest costs.

Greater gripping power, lessened vibration and increased centering precision are guaranteed in each "HOPKINS" Chuck.

"HOPKINS" Two and Three Jaw Chucks are made in the following diameters: 8", 10", 12" and 14"—all carried in stock.

Write for Bulletin—No. 3-28

**TOMKINS-JOHNSON CO.**

600-610 Mechanic St.,

Jackson, Mich.

**CAD**  
*Standardized set-up appliances*

Why force your men to waste time on machine tool table set-ups when CAD standardized appliances will convert this non-productive time into productive labor?

**STANDARD SHOP EQUIPMENT CO., Inc.**  
*Set-up appliances for machine tools*  
8135 Tinticum Ave., Phila., Pa.



# Armstrong Tools



## Tool Holders

Over 100 shapes and sizes for every operation on Lathe, Planer, Shaper, Slotter, etc.—the only complete line. Better have our Tool Holder Catalog.

## Ratchet Drills

For all purposes—"Packer," for rough service; "Standard," for general use; "Weston," extra heavy; "Universal" and "Short Ratchet." Ask for Ratchet Drill Catalog.

## Drop Forged Wrenches

All kinds. All sizes. Highest quality. Write for Catalog of Steel Wrenches.

## Clamps and Dogs

Drop forged. All shapes and sizes. Highest quality. Alloy steel screws. Separate Catalog.

## Armstrong Bros. Tool Co.

"THE TOOL HOLDER PEOPLE"

308 N. Francisco Ave., Chicago

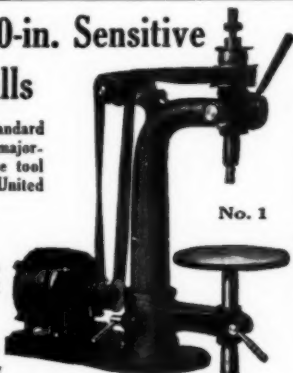
## BURKE 10-in. Sensitive Bench Drills

Are considered standard equipment by the majority of the machine tool dealers in the United States.

*There must be a Reason*

No. 0 Belt Driven..... \$19  
No. 1 Belt Driven..... \$22  
No. 1 Motor Driven \$42  
to \$47

We also build a 12-inch Bench Drill 9-16" Capacity



No. 1

The Burke Machine Tool Co., 297 E. 16th St.,  
Conneaut, Ohio

## Edgemont Friction Clutch

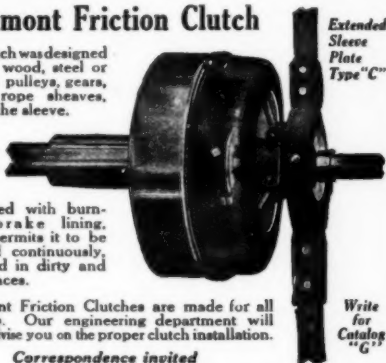
This clutch was designed to drive wood, steel or cast iron pulleys, gears, drums, rope sheaves, etc., on the sleeve.

It is lined with burn-proof brake lining, which permits it to be operated continuously, and used in dirty and dusty places.

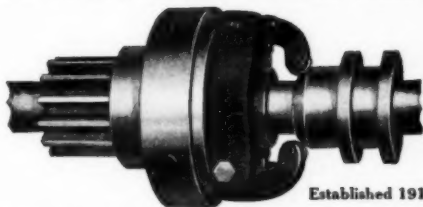
Edgemont Friction Clutches are made for all purposes. Our engineering department will gladly advise you on the proper clutch installation.

*Correspondence invited*

**Edgemont Machine Co., Inc., DAYTON, OHIO**



## The Carroll Friction Clutch

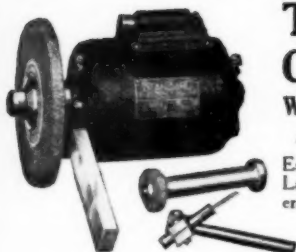


**Established 1912**

CARROLL clutches operate in a perfect manner on all machinery moved by wheels, without loss of power, with no end thrust on the shaft, run without noise, and very little wear. They do away with all shifting of belts on tight and loose pulleys. They are simple in construction, readily understood and easy to adjust.

*Write for prices and dimensions for your particular needs*

**L. W. Carroll Manufacturing Co.**  
**2046 Ross Ave., Norwood, Cincinnati, Ohio**



## Tool Post or Center Grinder Without Horizontal Feed

Also made with Horizontal Feed

Especially adapted for grinding  
Lathe Centers, Cutters, Ream-  
ers, Dies, Rolls and various  
kinds of work on Lathe,  
Milling Machine, Shaper  
or Planer.

Bearings are made of Phosphor Bronze, and they are split taper adjustable to wear and dust proof.

**Angle Plate Grinders, Electric Drills, Grinding, Polishing  
and Buffing Machines in various types and sizes.**

*Established 1912*

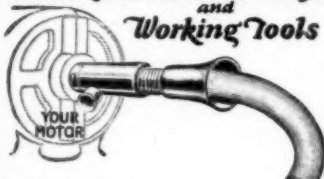
*Write for Late Catalog*

**THE STANDARD ELECTRICAL TOOL CO.**

1938 W. 8th St.,

Cincinnati, Ohio

## Put Your Idle Motor to Work with *Mall Attachable Shafts* and *Working Tools*



Your Motor  $\frac{1}{8}$ - $\frac{1}{2}$  horse  
power Plus Mall At-  
tachments Plus Green  
Rubber Shaft No. 2220  
Equals a Handy Outfit.

In addition to this shaft  
we also manufacture the  
well known RED RUB-  
BER covered flexible  
shafts, over 100 different  
machines to fill every  
flexible shaft need, and a  
complete line of working  
tools and attachments.

*Write for Catalog*

**Mall Tool Company**

7740 So. Chicago Ave.,  
CHICAGO, ILL.

Makers of the Largest As-  
sortment of Flexible Shaft  
Machines and Attachments.



*Mall*  
**Attachable Shafts**

**\$35.00** (Green Rubber  
Covered)  
COMPLETE  
Add 5% Denver and West

# SIEWEK RAPID DRILL JIGS

**SIMPLE - QUICK ACTING - TIME SAVING**

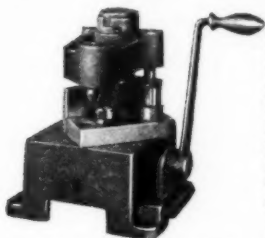


Illustration shows *Type A* tooling up.  
All types can be furnished either  
tooled up or not, as you prefer.

Ideal for making right or left hand parts in same jig, or drilling several parts in one jig. The *Cushion Clamp* conserves human energy and reduces loading time, thereby increasing production. Has plenty of load, chip and lubricating clearance. Close ranges of sizes and models. You can reduce operating costs to a minimum with Siewek Rapid Drill Jigs.

*Write for Catalog illustrating the various styles and sizes*

## SIEWEK TOOL & DIE COMPANY

10234 Woodward Ave.,

Detroit, Mich.

## Safety — Speed — Strength



(PATENT PENDING)

## GREENE QUICKACTING VISE

No. 3-3"  
\$6.00

No. 4-4"  
\$10.00

No. 6-6"  
\$20.00

Instant adjustment—positive grip obtained by use of *Special Screw and Open Nut*, the threads of which are *oppositely undercut*—no sticking—no binding—no stripping of threads. Unbreakable steel back bone for slide. Portable—suitable for bench or machine.

*Write for our Special Introductory Offer*

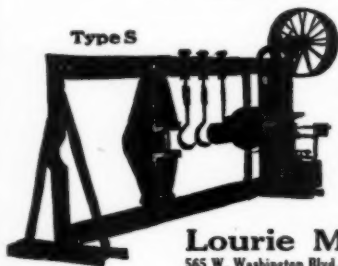
## Central Distributing Co.

946 Harper Ave.,

Detroit, Mich.

*Mail Orders Solicited—Agents Wanted*

# Lourie Hydraulic High Speed and Heavy Duty Presses



Type S

*For  
Every  
Purpose*

*Submit Us  
Your Inquiry*

**Lourie Mfg. Co.**  
565 W. Washington Blvd., CHICAGO, ILL.

## Let the HANDNIB, A Combined Shear and Nibbler, WORK FOR YOU.

**Save Time! — Save Money!**

**BE SATISFIED!**

We want you to get this "Handnib" and prove to yourself its time and money saving ability. This New, Scientifically designed nibbler does accomplish wonders. You can cut your template and gauge making costs *more than one-half*.

**SEND IN YOUR ORDER NOW!** We assume all responsibility and guarantee you complete satisfaction.

*Write for full information*

**National Machine Tool Co.**

1536B Clark St., Racine, Wisconsin



**Special  
Blades for  
Special  
Jobs**





## BELT GRINDER

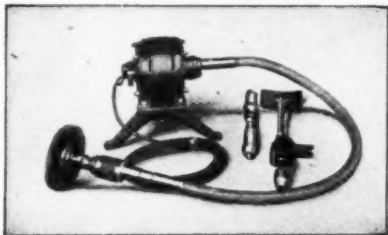
For flat grinding any kind of a finish on anything.  
Motor driven from lamp socket. Write us.  
THE PORTER-CABLE MACHINE CO., SYRACUSE, N. Y.



Two  
Sizes

## The Whirlwind Buffer and Grinder

Will cut the cost on any unhandy  
grinding or polishing job

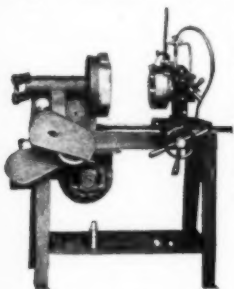


Send for our latest bulletin

**Stow Flexible Shaft Co.,** 3454 Ludlow St.,  
Philadelphia, Pa.

*The Best Since 1876*

## "SAUNDERS" New No. 1 Improved Pipe Threading and Cutting Machine



A new, ruggedly built machine for use in those plants where a PORTABLE machine on the job, or one for PERMANENT installation for all round pipe shop use is required.

Has 1 h. p. constant speed motor, reversing switch; one adjustable expanding diehead with interchangeable chasers for threading pipe from  $\frac{1}{4}$ " to 2" inclusive; rotary oil pump lubrication; reaming and cutting off attachment, and is adaptable for the threading of bolts and use of solid dies.

We also make other machines to meet all conditions for threading from  $\frac{1}{4}$ " to 18" inclusive.

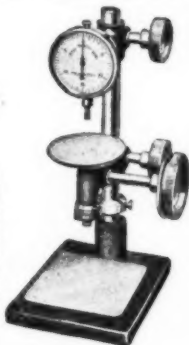
*Complete Catalog Sent Upon Request*

**D. Saunders' Sons, Inc.**  
31 Atherton Street, Yonkers, N. Y.

## FEDERAL Bench Gauge Model 35

Table can be operated by foot, leaving both hands of operator free. Can also be used as a comparator for gauging long stock by swinging table to one side. Table is 3" in dia., base is 4" square. Post 12" in height unless otherwise specified. Equipped with the famous FEDERAL Model 60 Dial Indicator.

*Write for Complete Catalog  
of the FEDERAL Line*



**Federal Products Corporation**  
PROVIDENCE, R. I.

Western Branch: 7338 Woodward Ave., Detroit, Mich.

## T.H.L. Front Lever Bench Punch

Malleable iron body; working parts hardened. Steel shaft and plunger. Die cannot lose alignment with punch. All parts interchangeable. Built for hardest, toughest work.

**PRICE \$40**

Extra Punches, 20 cents each; extra dies, 30 cents.

Capacity 13/32" thru 1/4" steel, 11/32" thru 5/16". Punches up to 1/2". Weight, 70 lbs.

*A good buy; can ship promptly*

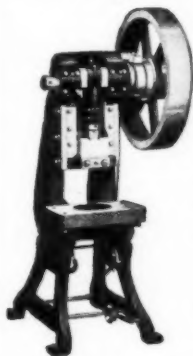
**T. H. LEWTHWAITE  
MACHINE CO.**

*(Est. 1890)*

311 E. 47th St., NEW YORK



## The Spirit Of the Times



is reflected in the speed and stamina of Rockford High Duty Punch Presses.

They are built to produce and maintain Hi-Production—and they do it.

Wide range of sizes and types.

*Write today for new catalog*

**Rockford Iron Works**  
Rockford, Ill.



# VICTORY POLISHER

**Timken  
or Ball-  
Bearing**

**\$75**

**For Single Tight  
Pulley Machine**

**\$95.00 For Tight and Loose  
Pulley Machine**

**America's Greatest Value**

Spindle  $1\frac{1}{4}$ " between  
flanges and 50" overall

**HILL-CURTIS CO.**  
MAKERS OF  
POLISHING AND GRINDING MACHINERY  
FORMERLY MADE BY WHEELER & HARRIS TOOL CO. SPRINGFIELD MASS.  
**KALAMAZOO MICHIGAN**

Send  
for  
Catalog H

**Abolish Expensive Hand Finishing**

*with a*



**Simplex-M Abrasive Band Grinder**

This Grinder accelerates production and cuts costs. Hand emerying or filing operations are antiquated in comparison. The use of this new modern machine assures straight grain finishes with sharp edges. Details of this and other styles and sizes on request.

**WALLS SALES CORP., 96 Warren Street  
NEW YORK**

# Bending Rolls

Bends angles, tees,  
beams, channels,  
squares, rounds,  
flats, pipes, and  
tubing — without  
heating.

*Write for Bulletin*

## Buffalo Forge Co.

161 Mortimer St.  
Buffalo, N. Y.

*In Canada: Canadian Blower  
and Forge Co., Ltd.  
Kitchener, Ont.*



## Let Your Losses Stop With the Broken Tap

Don't halt production and pay skilled mechanics  
to dig it out, often injuring the work.

### A Handy Walton Tap Extractor

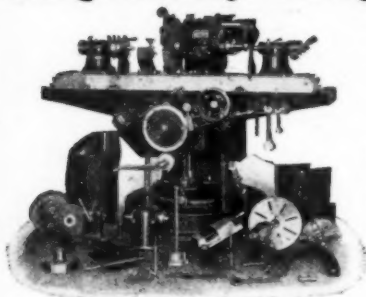
Will forestall these unnecessary losses. Insert its  
flutes into the broken tap, twist the end—an  
apprentice can do it in a jiffy—and the tap  
backs out without injury to the threads.

Made in three and four-flute styles.

*Let us send it to you for a sixty-day trial*

**The Walton Company**  
302 Pearl St.,      Hartford, Conn.

# Perpetually Sharp Tools



This ideal is most nearly realized with the improved

## Thompson Universal Grinder

Has no equal for all plain, surface, edge, die, cutter and internal grinding. All Thompsons are now equipped with the new auxiliary coarse cross feed for surface grinding. Capacity 12" x 36".

*Let us send you the Illustrated Booklet today!*

## The Thompson Grinder Company

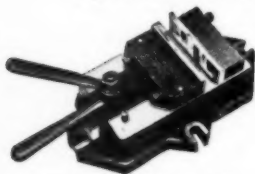
1534 West Main St.,

:-:

Springfield, Ohio

# Hartford Milling Vise

## Speed—Power—Convenience



Jaw width .....	5"
Jaw depth .....	1 1/4"
Maximum opening .....	3 1/2"
Weight .....	40 lbs.

Also made in the swivel-jaw type with hard or soft jaws, maximum opening 2 1/4".

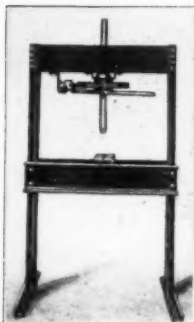
In point of service the Hartford is unusual. Its specialized design includes a lower cam-faced handle that insures speedy opening and return, and a top eccentric lever handle that gives tremendous binding power. The steel parts are drop forged, hardened and ground—base is made of special iron. The Hartford will stand up under every demand that may be made upon it.

*Our catalog gives details and describes its many uses*

We also Build Machinery on a Contract Basis and Design and Develop  
Special Automatic Machinery—Gears Cut to Order.

**Hartford Special Machinery Co.,** 285 Homestead Ave.,  
HARTFORD, CONN.

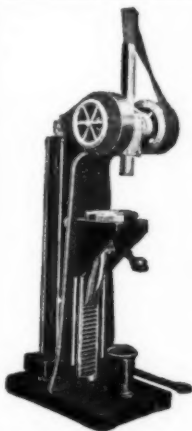
# Fall River Screw Press



Here is a new screw press which is large enough and strong enough to take care of every job that comes into the average shop. It is built of high grade steel throughout, with special attention given to those parts subject to the hardest strain. 42 inches wide and table is 8 inches. Capable of exerting over 65 tons pressure.

*Write for further information*

**Fall River Grinding & Machine Co.**  
JESSE ST., FALL RIVER, MASS.



## Atlas Arbor Presses

**For All Forcing Operations**

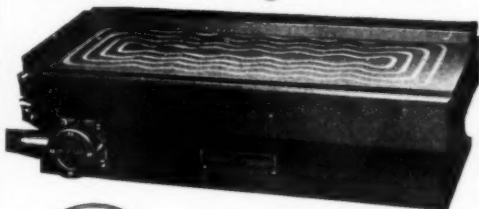
Illustration shows our No. 55 Power Drive Press, which is adaptable for fast production work and capable of supplying ten tons pressure.

*Write for our Bulletin—  
showing 30 different sizes*

**Atlas Press Co.**

Department B,  
Kalamazoo, Michigan

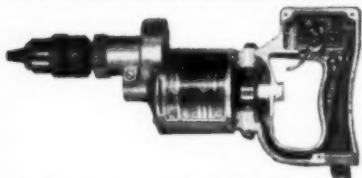
## "D & W" Flat & Rotary Magnetic Chucks



*Our Extensive Line* covers a wide range. They save time and cut costs holding iron and steel pieces. Glad to investigate and report on any problem you may have in connection with the use of Flat and Rotary Magnetic Chucks. Address

**J. & H. Electric Co.**  
159 Clifford St., Providence, R. I.

## WODACK General Purpose TOOL



**DRILLS  
GRINDS  
BUFFS  
POLISHES**

### Substantial—Dependable—Low Priced

New "keyless" Handlocking Chuck provides firm gripping of drill-bit —no possibility of slipping. No key to lose or misplace. Timken roller bearing and ball bearing on spindle insures wear-resistance. Drills from the smallest to and including  $\frac{3}{8}$ " in metal;  $\frac{1}{2}$ " in wood. Quick-change table to hold drill vertically or horizontally can be supplied. G-E motor 110-220 d. c. or a. c.

*Send for Bulletin 100*

**Wodack Electric Tool Corp.**  
4627-4629 W. Huron St., Chicago, Ill.

*Also Makers of Portable Electric Hand Saws, Grinders, Mortisers, Routers*



# Fulton STEEL BODY Universal

## Scroll



## Chucks

### AT THE PRICE OF A CAST IRON CHUCK

A one-piece body of solid cast steel. Impossible to break or split. Unconditionally guaranteed.

*Send us your trial order without obligation on your part.*

**All Sizes Always in Stock**

**UNITED HARDWARE & TOOL CORP.,** 50-52 Howard Street,  
NEW YORK

## “PROCUNIER”



**SAFETY TAPPING ATTACHMENT** with the “Procunier” Safety Friction and “Double-Jaw” tap holder gives

**GREATER ACCURACY  
and  
LESS TAP BREAKAGE**

The Procunier Safety Friction Device is very easily adjusted. With it blind holes can be tapped just as easily as through holes, and without danger of breakage.

*Catalogue 102-B gives complete details of  
PROCUNIER Tapping Devices, Quick  
Change Chucks and Stud Setting Tools*

### **Procunier Safety Chuck Co.**

**14 So. Clinton St.,**

**CHICAGO, ILL.**

## U. S. Sensitive 14" Floor Drill Motor Driven

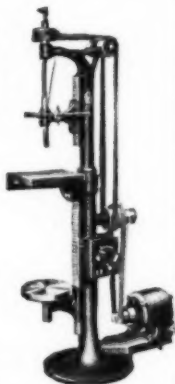
A simple, rugged, convenient drill;  
built by machine tool manufacturers.  
Drills holes up to  $\frac{1}{2}$ "—quickly, ac-  
curately and economically.

Price with motor,  
switch and belts - **\$115**

Or with Counter-  
shaft for Belt Drive **\$70**

Steel spindle, ground to size, with ball  
thrust bearing; vertical adjustment to  
head; tables for long and short work;  
three speeds, etc. Write for folder, or  
better still send in your order.

**The U. S. Machine Tool Co.**  
1952 W. 6th St., Cincinnati, Ohio



## Any Pattern Multiple Drilling

With this attachment on  
your "hole-at-a-time" spin-  
dle you can drill two or more  
holes, utilizing the same  
speeds and feeds you use for  
one. The—

### U. S. Multiple Spindle Drill Head

has a patented double ad-  
justment which permits drill-  
ing in any pattern. It does  
the work of a multiple spin-  
dle drill press at a fraction  
of the cost.

*Send us work or a blue-  
print for cost estimate*

**The United States Drill Head Co.,** 1952 W. Sixth St.,  
CINCINNATI, O.  
Michigan Agents—National Sales Engineering Corp., Detroit, Mich.

## Winterhoff Portable Production Drills

No. 0 JUNIOR DRILL  
10½" Swing, 0 to ¾" Capacity



Equipped with ¼ h. p. motor, two step cone pulley giving speeds of 1100 and 2300 r. p. m., horizontal drive gives full power to the 1¼" endless belt furnished with machine. Driven cone has bearing support at each end; all parts accurately machined and interchangeable. *Positively the greatest value ever offered in a machine of this kind.* Furnished with square machined base at same price.

Drills, Grinders, Disc Grinders, Saws, Sanders. All motor driven.

*Send for circulars describing these machines or see your Dealer.*

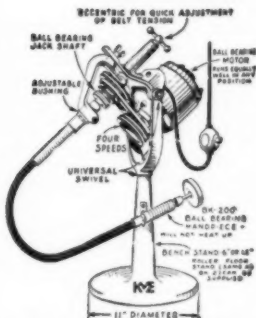
**Winterhoff Tool & Machine Co.**

109 South Elkhart Ave.,

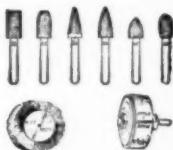
Elkhart, Ind., U. S. A.

## The KELLERFLEX "BK"

"The Machine of 100 Uses"



¼ — 1/3 — ½ H. P.  
Speeds up to 10,500

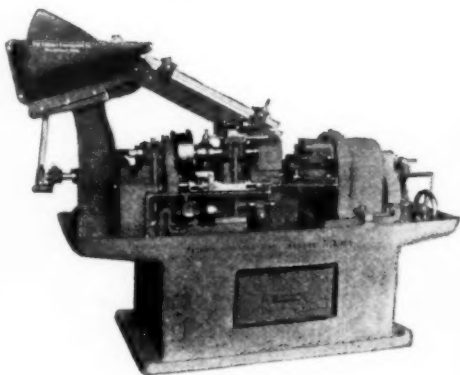


COMPLETE LINE OF ACCESSORIES

Rotary Files—  
Emery Wheels—Sanding Drums—  
Wire Brushes, Etc.

**Keller Mech. Engineering Corp., 58A Washington St., Brooklyn, N.Y.**

# Combined Automatic Pointing and Threading Machines

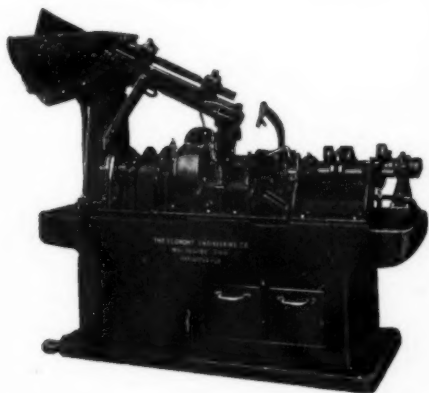


For Bolts and Cap Screws  
Capacity— $\frac{3}{16}$ "x1" to 1"x6"

*Write for Full In*

**THE ECONOMY ENGINEERING C**

# Automatic Shaving Machines



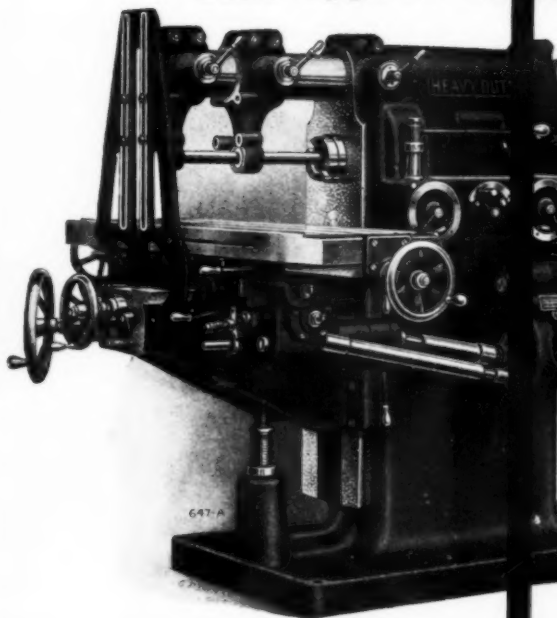
Shaves top and underneath  
head of Cap Screws  
Capacity  $\frac{1}{4}$ " x  $\frac{3}{4}$ " to  $\frac{3}{4}$ " x  $5\frac{1}{2}$ "

*Information*

**COMPANY, - Willoughby, Ohio**

# **LeBLOND Heavy**

## **Cone Type or Single**



**The R. K. LeBlond Machine Co.**  
**Cincinnati, Ohio**

# **Duty MILLERS**

## **Single Pulley Driven**



A general massive design, rugged simplicity, tremendous driving power and operative convenience are reflected in increased productive capacity. Rapid power traverse is offered on the plain machines in the larger sizes, an important production-increasing feature. Built in a complete line of sizes, cone type and geared driven, plain and universal, for all milling requirements.

Our service department will gladly assist in an analysis of your milling problems and will submit recommendations and estimated production upon receipt of your blue prints.

**Machine Tool Company**  
**Cincinnati, Ohio**

# KRW Hydraulic and Sensitive ARBOR PRESS

Now Sold Direct To User  
At Greatly Reduced Prices

**\$115<sup>00</sup>** F. O. B.  
Factory

**COMPLETE** With All  
Attachments as shown

The latest improved combination KRW Hydraulic and sensitive Arbor Press incorporates many new improvements, not found in any other Arbor Press, at any price.

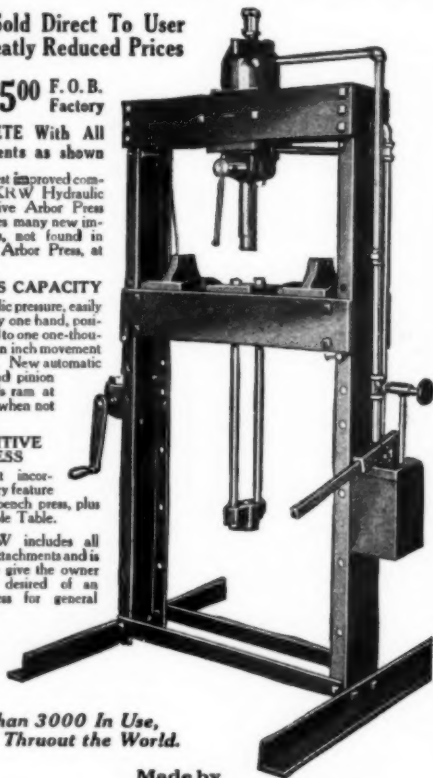
## 35 TONS CAPACITY

By hydraulic pressure, easily operated by one hand, positive control to one one-thousandth of an inch movement of the ram. New automatic air vent and pinion brake holds ram at any height when not in use.

## SENSITIVE PRESS

Attachment incorporates every feature of a 3 ton bench press, plus—Adjustable Table.

The KRW includes all necessary attachments and is designed to give the owner everything desired of an Arbor Press for general garage use.



*More Than 3000 In Use,  
Thruout the World.*

Made by

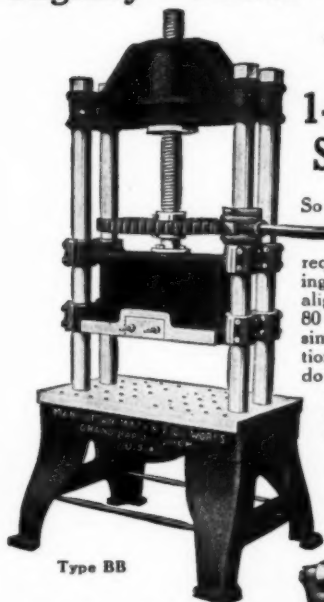
**K. R. WILSON, 10-14 Lock St., BUFFALO, N. Y., U.S.A.**



# Rigidity—Power—Economy

Are Combined  
In This

## 1-Man 4-Post Screw Press



Type BB

So powerful is this machine that your tool-maker will require no help in handling any dies.—Its perfect alignment, its delivery of 80 tons pressure, and the simplicity of its operation, enable one man to do more work in less time than two men can do on any other type of screw press.

Also three smaller sizes

## A Surface Grinder

that is a revelation in quiet efficiency. Its rigidity insures accuracy; feeds have graduated dials—runs silently without chatter.

*Details and price on request*

**JARECKI MACHINE  
AND TOOL CO.**

Department A

GRAND RAPIDS,

MICHIGAN





## TUCKER

### Oil Hole Covers

ALSO—HERCULES  
SHEAR AND ROD CUTTERS  
AND  
SCREW MACHINE PRODUCTS

**A Type for Every Service**

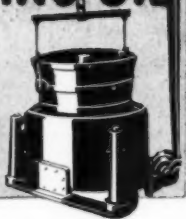
*Send for Catalogue No. 12*



**W. W. & C. F. TUCKER, INC.,** 612 Capitol Ave.,  
Hartford, Conn.

*FOREIGN AGENTS: Fenwick Freres & Co., Paris, France  
Alfred Herbert, Ltd., Yokohama, Japan*

## SAVE CUTTING OIL



**Tolhurst Chip Wringers reclaim 6 to 15 gallons per load and handle three to four loads per hour. Basket sizes 20" to 48".**

**TOLHURST MACHINE WORKS, Inc., Troy, N. Y.**

## For Servicing Machines or Storage

### "The Handiest Racks"



**FOR SERVICING**—They keep material beside lathe or screw machine, ready for instant use. Being neatly piled and sorted, operator loses no time in selecting stock. Saves time, steps, and space.

**FOR STORAGE**—Keeps pipe, shafting and bar stock neatly piled and assorted in smallest space, making it easy to handle and count. May be set against wall for a *single-arm* rack or out on floor as *double-arm* rack.

### Re-Orders Prove Usefulness

One manufacturer recently ordered as follows: May 4, (3); May 17, (3); August 9, (4) and Sept. 12, (8). Another ordered his first three in August and 8 more in September. And so on.

*Shipped on Trial if You Wish*

**Wm. S. Yohe Supply Co.**  
503 Mahoning Road, N. E., Canton, Ohio

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### Hollow Bored Forgings—Steel Shafts



A dependable source of supply saves a great deal of worry and often prevents serious mistakes. "American" Hollow Bored Forgings and Steel Shafts for lathe spindles, hydraulic cylinders, rams, clutch shafts, etc., can be depended upon invariably. The quality is unvarying, delivery prompt, and prices are most reasonable.

*Send Blueprints for Trial Quotation*

**American Hollow Boring Co.**  
Erie, Penna.

**Tight Joints  
that  
Swivel**



*Sample  
on  
Approval*

## **Quick-As-Wink Industrial Hose Couplings**

These bronze couplings swivel freely but NEVER LEAK and can't be put out of commission. Just push together Quick-As-Wink, that's all! Can not become disconnected accidentally. Guaranteed for one year. Made in sizes from 1/8" to 4". Get descriptive bulletin and prices.

C. B. HUNT & SON - - - SALEM, OHIO

## **High Speed Sensitive Tapping**

*with*

***Etco*  
Tappers**



*"Sensitive as  
your Finger  
Tips."*

No. 1 Etco Tapper—capacity 1/4-inch.  
No. 2 Etco Tapper—capacity 3/8-inch.  
No. 3 Etco Tapper—capacity 7/8-inch.

Anything that can be tapped by hand can be tapped with an Etco tapper. The Etco taps blind holes as easily as those which go through—and it eliminates broken taps.

There is no friction to adjust in the Etco.

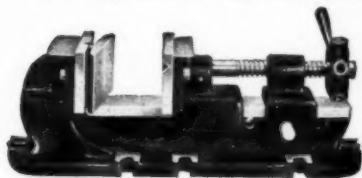
Production increased 100% to 500% on many jobs.

Don't condemn the taps you are using; try an Etco tapper for ten days without obligation.

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# Gem Drill Press Vise

Holds tapered and irregular shaped pieces firmly



Made in  
three  
sizes  
up to  
10½ in.

ITS STRENGTH, capacity, adaptability and quickness of setting make it *the most efficient vise on the market.* Swivel jaw adjusts automatically to odd shaped pieces. Adapted to an unusual variety of drilling and milling operations. A big time saver. Worth more than it costs.

*Write for folder, illustrating some of its many uses.*

**J. E. Martin Tool & Die Works,** 528 W. State St.  
Springfield, O.

Spindle Speeds  
to 10,000 R. P. M.



**SIGOURNEY No. 0**

**All Ball Bearing  
High Speed Sensitive  
Bench Drill Press**

AN UNUSUALLY sensitive drill for accurate work at high speeds. Like all Sigourney Drills, it is sold on quality rather than price. All parts are interchangeable.

Sigourney Drills are made with one to four spindles. They are all extremely sensitive, accurate and durable.

*Write for our  
Booklet today*

**THE SIGOURNEY TOOL CO., HARTFORD, CONN.**

## No. 2 ALTO Three Speed Motor Driven Tapping Machine

**Saves TIME and TAPS**

*Semi-Automatic*

Sensitive for small tapping and powerful enough to drive taps through  $\frac{3}{8}$ " C. R. Steel. Motor driven, 3 speeds—150, 300 and 450 r. p. m. forward, 300, 600 and 900 r. p. m. reverse. Friction clutch, well lubricated, easy shift belt.

We can also furnish smaller high speed tappers.

*Write for descriptive folders and low prices.*



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CHICAGO, ILL.

## Nicholson Expanding Mandrels



**T**URNING a solid mandrel up for every job is nearly as bad shop practice these days, as making a solid reamer for every job instead of using an expansion reamer.

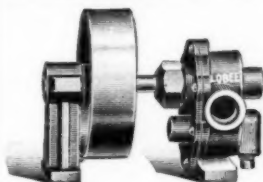
*Write us about expanding mandrels*

**W. H. Nicholson & Co.**

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# Lobee Pumps



*For*  
Circulating  
Lubricants, Etc.  
Easy To Attach.

**Made For  $\frac{3}{8}$ ",  $\frac{1}{2}$ ", 1", 1  $\frac{1}{4}$ "**  
**Standard Pipe Connections**

*Write for Booklet "H"*

**Lobee Pump & Machinery Co.**

128 Dearborn St.,

BUFFALO, N. Y.

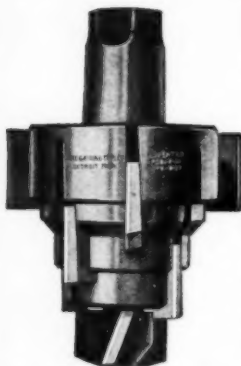
**GITS  
BROS.**

**Better  
Oilers**

*287 Styles & Sizes*



**GITS BROS MFG. CO.**  
1940 S. Milbourn Chicago.



# GAIRING

MULTIPLE - OPERATION

**CUTTERS**

**SOLID**

AND

**INSERTED BLADE**

Our business is the planning and production of end cutting tools upon which we have concentrated our thoughts and efforts for many years.

Our Technical dept. devotes its time exclusively to planning and designing tools to suit your requirements.

Send us your Blue Prints or parts to be machined, we will design and suggest tools to produce holes most economically.

No obligation, merely a willingness to be helpful. Tool Catalog and Engineering Reference mailed on request.

**THE GAIRING TOOL COMPANY**

1635-37 W. Lafayette Blvd.,

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*Representatives In Principal Cities*

## End Mill Economy



Make Straight Shank End Mills equal to Solid Taper Shank "SCULLY-JONES" CUTTER CHUCKS make this possible; they "CENTER BY THE SHANK" and "DRIVE BY THE SQUARE".

**All sizes of CHUCKS and END MILLS in stock.**

**"Try the combination and be convinced."**

Write for copy of our Small Tool Catalog No. 36 which completely lists and describes these tools as well as all other "SCULLY-JONES" Production Tools.

**Scully-Jones & Company**

*Tool Division*

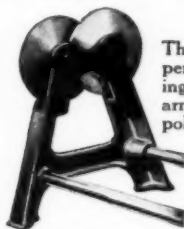
1901 S. Rockwell St.,

Chicago, Ill.



# Twentieth Century Balancing Tool

*Always on the level*



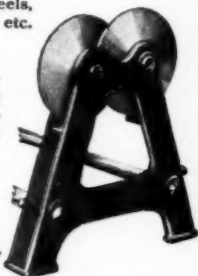
The most practical, sensitive and inexpensive device manufactured for balancing pulleys, cones, armatures, fly wheels, polishing wheels, etc.

Will set anywhere and is easily portable. In sizes

up to 24,000 pounds capacity.

*Ask for the Bulletin*

**Sundstrand Machine Tool Co.**  
Rockford, Ill.



## Towsley Trucks PAY 500%

**—Every Year on  
Their Cost Price**



**Many Sizes and Styles  
from \$10 up.**

Glad to tell  
you how

**TOWSLEY  
TRUCKS**

repay their  
cost every  
two to three  
months.

Every style  
for every  
need.

*Write for facts and figures; you'll never regret it*

**John T. Towsley Mfg. Co., Cincinnati,  
Ohio, U. S. A.**

Equip with  
**BRIDGEBILT**  
Factory Seating

Adjustable for comfort—steel for long life

Select the chairs and stools for your factory from this line. They will meet your particular needs and stand up under any wear you give them.

*Write for prices and  
illustrated folder*



**The Chicago Wire Chair Co.**

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## **“Utility Tools”**

### **Cut Replacement Costs**

*This Interchangeable Counterbore and Spot Facer is equipped to serve you better, longer and with greater economy—because of*

#### **Four Points of Superiority**

- (1) Pilots cannot break or twist off.
- (2) Cutters cannot break and are easily removed.
- (3) Set screws cannot loosen.
- (4) The drive is the utmost in simplicity and power.

*If you are interested in tool economy,  
send for catalog; it will pay you*

**The J. C. Glenzer Company**

6469 Epworth Blvd., Detroit, Mich.

## Vanderbeek Universal Joints



—represent the practical refinements of 25 years experience in manufacturing Universal Joints. All parts are generous sized, fully protected against dirt, and are practically self-oiling. Exceptionally strong, they transmit full power up to 70°.

Vanderbeek Joints are in daily use on thousands of machines.

*Write today for our Descriptive Catalog.*

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Hartford, Conn., U. S. A.



## Utility, Speed and Finish In Riveting—



**UTILITY:** no corner is too inaccessible or too awkward for a Grant to place a rivet. Simplicity in manipulation admits its being operated by cheap labor.

**SPEED:** one rivet per second.

**FINISH:** rivets are headed to the exact degree of tightness you require, they are perfectly formed, and carry no marks of mutilation.

*Tell us your needs—or better still send us samples for riveting.*

**The Grant Mfg. & Machine Co.**  
C. E. Station, Bridgeport, Conn.



## "Borgeson Universal Joints"

Are you a user of Universal Joints?  
If so!

Remember well and bear in mind that a good Universal Joint is hard to find. But if you want one tried and true, you will want the "Borgeson" before you are through.

You will become not only a "Buyer" but a "Booster" for "Borgeson."

**SIZES:**  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$ ,  
 $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{2}$ ,  $2\frac{3}{4}$ .

Should you require Special Universal Joints, be sure to write for quotation.

*Complete description gladly  
furnished upon request*

**The Borgeson Mfg. Co., Inc.**  
Torrington, Conn.

# HARDINGE

COLLETS



### The Superior Excellence

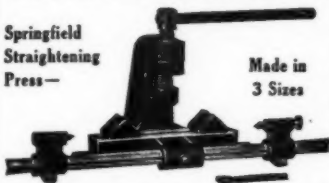
of any product is almost invariably based on long, practical experience. It explains the dependable excellence of Hardinge Chucks and Collets.

*We solicit your inquiry*

**Hardinge Brothers Inc.**  
4149 Ravenswood Ave. Chicago Ill.

## The Acme of Convenience

Springfield  
Straightening  
Press—



Made in  
3 Sizes

Made in  
Three sizes  
Each a real  
Time saver

Wherever straightening is needed, the Springfield gives satisfaction. Whether in shop, tool room, or garage. It can be operated with such accuracy and speed that users have named it *the acme of convenience*.

Placed near lathe or bench, for example, a tool maker can straighten any length of rough or unfinished work without leaving his post.

*A Springfield quality product! Let us send a catalog*

**The Springfield Machine Tool Company**

633 West Southern Avenue,

SPRINGFIELD, OHIO

We also manufacture Engine Lathes and Shapers

## Balancing Ways

Anderson Improved are Always Ready



Made in six sizes for balancing anything that turns on a shaft, up to 24,000 lbs.—pulleys, gin brushes, turbine rotors, crank shafts, polishing wheels, fly wheels, etc.; also for testing straightness of shafts, crank shafts, etc. No centers required; no leveling. Always ready and accurate; very sensitive.

"Swing"	20"	40"	60"	72"	96"	72"
Greatest distance bet. standards..	20"	30"	30"	66"	88"	20'
Capacity in lbs. ....	1000	2000	2000	5000	10000	24000
Approx. shipping weight.....	45	90	150	350	650	
Code	Bend	Bid	Bis	Bib	Ben	

*Any of above can be furnished with longer shafts*

**Anderson Bros. Mfg. Co.**

1915 Kishwaukee St., Rockford, Ill.

# MARKING DEVICES



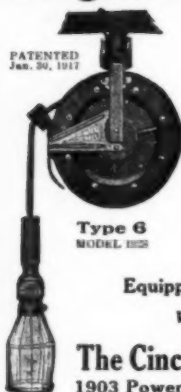
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BRIDGEPORT, CONN.

## Brighten Up that Corner

Or Any Dark Spot  
with an

### AUTEX Extention Reel

PATENTED  
Jan. 30, 1917



**Type 6**  
MODEL 1922

Good workmanship depends greatly upon good light. Banish gloom—insure accuracy—eliminate eye-strain and fatigue by using AUTEX in your plant. Goes anywhere you want or need it, repays its small cost many times over during the course of a year. The dark months are ahead—ORDER NOW!

Approved by the Underwriters  
Equipped with Rubber Covered Cord

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# Used In The Drill Press

This keyseater needs no other accessories. It is complete within itself.

*Catalog O is yours*

**National Machine Tool Co.**

2268 Spring Grove Ave., Cincinnati, O.



# Keyseats Shafting In Place

Anywhere, in any position



**The BURR  
Portable  
Keyseater**

Cuts accurate  
Keyways up to  
12" long any-  
where, in any  
position, in  
shafts up to 5"  
diameter.

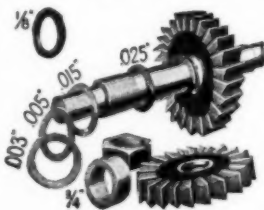
**DON'T WAIT** until you need it, when you would gladly pay 10 times its cost to have one—**ORDER NOW.**

*Over 10,000 in use. Will you be the next to play safe?*

**JOHN T. BURR & SON**  
422 Kent Ave., Brooklyn, N. Y.

## Steel Spacing Washers—

Made of a good grade of Cold Rolled Strip Steel, also known as Shim Steel



Stock sizes for arbors of following diameters:  $\frac{3}{16}$ ,  $\frac{1}{8}$ ,  $\frac{3}{16}$ ,  $\frac{1}{4}$ ,  $\frac{5}{16}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $1$ ,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$ ,  $1\frac{3}{8}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ ,  $1\frac{7}{8}$ ,  $2$ ,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ ,  $3$ ,  $3\frac{1}{2}$  and 4 in. and larger.

Stock thicknesses: .002, .003, .004, .005, .006, .007, .008, .010, .012, .015, .020, .025, .032, .047, .063, .093 and .125 inch.

Other thicknesses up to 3.000" made to order, with keyways if so ordered.

*Ask us to send samples; you'll like them*

**Detroit Stamping Company**  
3443 West Fort St., Detroit, Mich.

## LINLEY Equipment for Rotary Rivet Spinning Machines



Roll Holders  
Roll Holder Screws  
Riveting Rolls  
Burnishing Tools

Burnishing Tool Holders  
Anvils  
Hammers or Piens  
Used Rolls Retinished

In producing and marketing LINLEY EQUIPMENT for RIVET SPINNING MACHINES, the main idea we had was to produce equipment of superior quality.

Our experience in this line enables us to offer you tools that are made of the correct materials, properly heat treated and machined to close limits where accuracy is necessary. They will give you longer service and at a saving in every case.



*Send for Descriptive Folder*

**Linley Brothers Company**  
579 Fairfield Ave., Bridgeport, Conn.



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Nicholson & Co., W. H., Wilkes-Barre, Pa.

### Angle Plates

Pasman Bros., 707 W. Washington, Chicago

### Auto-Gages For Dies

Daily Machine Specialties, Inc., 4918 Lincoln Ave., Chicago

### Automatics

New Britain Machine Co., New Britain, Conn.

### Balancing Ways

Anderson Bros. Mfg. Co., Rockford, Ill.  
Sundstrand Machine Tool Co., Rockford, Ill.

### Balls, Bearing and Burnishing

Abbott Ball Co., Hartford, Conn.

### Band Saw Machines, for Metal

Armstrong-Bloom Mfg. Co., 841 N. Francisco Ave., Chicago

Porter-Cable Machine Co., Syracuse, N. Y.  
Racine Tool & Machine Co., Racine, Wis.

### Barrels, Tumbling

Abbott Ball Co., Hartford, Conn.  
Scully-Jones & Co., 1901 So. Rockwell St., Chicago

### Bearings, Ball

Norma-Hoffman Bearings Corp., Stamford, Conn.

### Bearings, Roller

Norma-Hoffman Bearings Corp., Stamford, Conn.

### Bearings, Thrust

Norma-Hoffman Bearings Corp., Stamford, Conn.

### Bench Legs, Steel

New Britain Mch. Co., New Britain, Conn.  
Pollard Bros. Mfg. Co., 4088 N. Tripp Ave., Chicago

### Bending Machines, Hand and Power

Armstrong-Bloom Mfg. Co., 841 N. Francisco Ave., Chicago

Hendley & Whittemore Co., Beloit, Wis.  
Lowthwaite Mch. Co., T. H. 417 E. 31st, N. Y.

Laurie Mfg. Co., 565 Washington, Chicago  
Fedrick Tool & Machine Co., Philadelphia

### Bending Rolls

Hendley & Whittemore Co., Beloit, Wis.

### Bolt and Nut Machinery

Economy Engineering Co., Willoughby, O.  
Foots-Burt Co., Cleveland, O.

Gateman Mfg. Co., Manitowoc, Wis.

### Bolt and Nut Threading Attachments

Saunders' Sons, D., Inc., Yonkers, N. Y.

### Bolt Threading Dieheads

Saunders' Sons, D., Inc., Yonkers, N. Y.

### Boring Bars

Fedrick Tool & Machine Co., Philadelphia

### Boring Bars, Cylinder

Fedrick Tool & Machine Co., Philadelphia

### Boring, Drilling & Milling Machines

Defiance Machine Co., Defiance, O.

### Boring and Drilling Mchcs., Vertical

Baker Brothers, Inc., Toledo, Ohio

### Boring and Turning Machines, Vertical

Cincinnati Planer Co., Cincinnati, Ohio

### Boring Machines, Horizontal

Avey Drilling Machine Co., Cincinnati

Lambert Mch. & Engr'g Co., Cleveland, O.

Fedrick Tool & Machine Co., Philadelphia

### Boring Tools

Rickert-Shafer Co., Erie, Pa.

### Brands, Burning

Schwerdtle Stamp Co., Bridgeport, Conn.

### Bulldozers, Hydraulic

Laurie Mfg. Co., 565 Washington, Chicago

### Burnishing Equipment, Ball

Abbott Ball Co., Elmwood, Conn.

### Bushing Finishing Machines.

Economy Engineering Co., Willoughby, O.

### Casters, Truck

Pioneer Caster & Mfg. Co., Elkhart, Ind.

### Centering Machines

Sundstrand Machine Tool Co., Rockford, Ill.

### Chucking Machines

New Britain Mch. Co., New Britain, Conn.

Springfield Machine Tool Co., Springfield, O.

Stevens Inc., John B., 27 Cleveland Place, New York

### Chucks, Automatic and Quick Change

Gateman Mfg. Co., Manitowoc, Wis.

Procurier Safety Chuck Co., 18 S. Clinton St., Chicago

### Chucks, Collet

Hardings Brothers, Inc., 1770 Berteau Ave., Chicago

Procurier Safety Chuck Co., 18 S. Clinton St., Chicago

### Chucks, Drill

Eastern Tube & Tool Co., Inc., 580 Johnson Ave., Brooklyn, N. Y.

Hartford Special Mch. Co., Hartford, Conn.

Scully-Jones & Co., 1901 So. Rockwell St., Chicago

### Chucks, Drill and Tap

Procurier Safety Chuck Co., 18 S. Clinton St., Chicago

Scully-Jones & Co., 1901 So. Rockwell St., Chicago

### Chucks, Keyway Cutting

Scully-Jones & Co., Ry. Exch. Bldg., Chicago

### Chucks, Lathe.

Stevens Inc., John B., 27 Cleveland Place, New York

Tomkins-Johnson Co., Jackson, Mich.

United Hardware & Tool Corp., 50 Howard St., New York

### Chucks, Magnetic

J. & H. Electric Co., Providence, R. I.

### Chucks, Segment Wheel

Rogers & Co., Samuel C., Buffalo, N. Y.

### Clamps, Die

Daily Machine Specialties, Inc., 4918 Lincoln Ave., Chicago

### Clutches, Friction

Carroll Mfg. Co., L. W., Batavia, Ohio

Conway Clutch Co., Cincinnati, O.

Edgemont Machine Co., Dayton, O.

Foots Bros. Gear & Machine Co., 218 Curtis, Chicago

### Cold Saws

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### Couplings, Flexible

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Nicholson Co., W. H., Wilkes-Barre, Pa.

### Couplings, Friction Clutch

Conway Clutch Co., Cincinnati, O.

### Couplings, Shaft

Nicholson Co., W. H., Wilkes-Barre, Pa.

### Cranes, Portable

Canedy-Otto Mfg. Co., Chicago Heights, Ill.

Canton Foundry & Mch. Co., Canton, Ohio

# Classified Finding Index

**Crank Pin Turning Machine**  
 Pedrick Tool & Machine Co., Philadelphia  
**Cutters, Keyseating**  
 Davis Keyseater Co., Rochester, N. Y.  
 Scully-Jones & Co., 1901 So. Rockwell St., Chicago

**Cutters, Milling**  
 Genesee Mfg. Co., Rochester, N. Y.  
**Cylinder Boring Machines, Portable**  
 Pedrick Tool & Machine Co., Philadelphia

**Demagnetizers**  
 J. & H. Electric Co., Providence, R. I.  
**Dial Indicators**  
 Federal Products Corp., Providence, R. I.

**Die Making Machines**  
 Oliver Instrument Co., Adrian, Mich.  
**Dies, Automatic Self-Opening**  
 Rickert-Shafer Co., Erie, Pa.

**Die Sets**  
 Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago  
 U. S. Tool Co., Inc., Ampere, N. J.

**Die Sinking and Engraving Machines**  
 Gorton Machine Co., Geo., Racine, Wis.  
 Keller Mech. Eng. Corp., 684 Washington St., Brooklyn, N. Y.

**Discs, Machine Steel**  
 Passman Bros., 707 W. Washington, Chicago  
**Dividing Heads**  
 Stevens Inc., John B., 27 Cleveland Place, New York

**Drill Jigs**  
 Siewek Tool & Die Co., Detroit, Mich.  
**Drill Racks**  
 Peerless Machine Co., Racine, Wis.

**Drilling Heads, Multiple**  
 National Automatic Tool Co., Richmond, Ind.  
 United States Drill Head Co., Cincinnati

**Drilling Machines, Automatic**  
 Baker Brothers, Inc., Toledo, Ohio.  
 National Automatic Tool Co., Richmond, Ind.

**Drilling Machines, Bench**  
 Avey Drilling Machine Co., Cincinnati  
 Buffalo Forge Co., Buffalo, N. Y.  
 Burke Machine Tool Co., Connessut, Ohio  
 Canedy-Otto Mfg. Co., Chicago Heights, Ill.  
 National Automatic Tool Co., Richmond, Ind.  
 Sigourney Tool Co., Hartford, Conn.  
 Stecher Co., Chas., 2452 N. Greenview Ave., Chicago

Taylor & Fenn Co., Hartford, Conn.  
 Winterhoff Tool & Machine Co., Elkhart, Ind.

**Drilling Machines, Boiler**  
 Cincinnati Bickford Tool Co., Oakley, Cincinnati, Ohio

**Drilling Machines, Gang**  
 Baker Brothers, Inc., Toledo, Ohio.  
 Cincinnati Bickford Tool Co., Oakley, Cincinnati, Ohio

**Drilling Machines, Horizontal**  
 National Automatic Tool Co., Richmond, Ind.  
 Stevens Inc., John B., 27 Cleveland Place, New York

**Drilling Machines, Multiple Spindle**  
 Avey Drilling Machine Co., Cincinnati  
 Baker Brothers, Inc., Toledo, Ohio.  
 Cincinnati Bickford Tool Co., Oakley, Cincinnati, Ohio

Foots-Burt Co., Cleveland, O.  
 National Automatic Tool Co., Richmond, Ind.  
 Sigourney Tool Co., Hartford, Conn.  
 Taylor & Fenn Co., Hartford, Conn.

**Drilling Machines, Portable Electric**  
 Cincinnati Electrical Tool Co., Cincinnati, O.  
 Hazy-Wolf Machine Co., Cincinnati, O.  
 Mail Tool Co., 7780 S. Chicago Ave., Chicago

Standard Electrical Tool Co., Cincinnati, O.  
 Stow Flexible Shaft Co., Philadelphia, Pa.  
 Strand Co., N. A., 5001 N. Lincoln St., Chicago  
 Winterhoff Tool & Machine Co., Elkhart, Ind.  
 Woodack Electric Tool Corp., 4629 W. Huron St., Chicago.

**Drilling Machines, Post**  
 Canedy-Otto Mfg. Co., Chicago Heights, Ill.  
 Hammond Mfg. Co., Cleveland, Ohio.

**Drilling Machines, Radial**  
 American Tool Works Co., Cincinnati, O.  
 Canedy-Otto Mfg. Co., Chicago Heights, Ill.  
 Cincinnati Bickford Tool Co., Oakley, Cincinnati, Ohio  
 Dresses Machine Tool Co., Cincinnati, O.  
 Hammond Mfg. Co., Cleveland, Ohio.  
 Taylor & Fenn Co., Hartford, Conn.

**Drilling Machines, Sensitive**  
 Avey Drilling Machine Co., Cincinnati  
 Baker Brothers, Inc., Toledo, Ohio.  
 Buffalo Forge Co., Buffalo, N. Y.  
 Burke Machine Tool Co., Connessut, Ohio  
 Canedy-Otto Mfg. Co., Chicago Heights, Ill.  
 Foots-Burt Co., Cleveland, O.  
 Leland-Gifford Co., Worcester, Mass.  
 Muehlmann, Adolph, Cincinnati, O.  
 Sigourney Tool Co., Hartford, Conn.  
 Stecher Co., Chas., 2452 N. Greenview Ave., Chicago

Taylor & Fenn Co., Hartford, Conn.  
 U. S. Machine Tool Co., Cincinnati, O.

**Drilling Machines, Vertical**  
 Avey Drilling Machine Co., Cincinnati  
 Buffalo Forge Co., Buffalo, N. Y.  
 Canedy-Otto Mfg. Co., Chicago Heights, Ill.  
 Cincinnati Bickford Tool Co., Oakley, Cincinnati, Ohio  
 Foots-Burt Co., Cleveland, O.  
 Leland-Gifford Co., Worcester, Mass.  
 Marsh Machinery Co. A. R., Cleveland, Ohio  
 National Automatic Tool Co., Richmond, Ind.  
 Osterlein Machine Co., Cincinnati, Ohio  
 Sigourney Tool Co., Hartford, Conn.  
 Standard Electrical Tool Co., Cincinnati, O.  
 Stecher Co., Chas., 2452 N. Greenview Ave., Chicago

Taylor & Fenn Co., Hartford, Conn.

**Drills, Twist**  
 Cleveland Twist Drill Co., Cleveland, Ohio.

**Emery Stands**  
 Carroll Mfg. Co., L. W., Batavia, Ohio

**Emery Wheel Dressers and Cutters**  
 Taylor & Fenn Co., Hartford, Conn.

Western Tool & Mfg. Co., Springfield, O.

**Engravers, Mechanical and Hand**  
 Schwerdtle Stamp Co., Bridgeport, Conn.

**Etching Machines, Electric**  
 Brewster Co., Wm., Inc., 60 Church St., New York

Luma Electric Equipment Co., Toledo, Ohio.

**Feeders, Oil and Soda Water**  
 New Britain Machine Co., New Britain, Conn.

**Filing Machines**  
 Oliver Instrument Co., Adrian, Mich.  
 Wardwell Mfg. Co., Cleveland, O.

**Files**  
 Simonds Saw & Steel Co., Fitchburg, Mass.

**Flexible Shaft Machinery**  
 Keller Mech. Eng. Corp., 684 Washington St., Brooklyn, N. Y.

Mail Tool Co., 7780 S. Chicago Ave., Chicago

**Forges**  
 Canedy-Otto Mfg. Co., Chicago Heights, Ill.

**Forgings, Hollow Bored**  
 American Hollow Boring Co., Erie, Pa.

**Furniture, Machine Shop**  
 New Britain Machine Co., New Britain, Conn.

Pollard Bros. Mfg. Co., 4088 N. Tripp Ave., Chicago

Western Tool & Mfg. Co., Springfield, O.

# Classified Finding Index

**Gauges, Cylindrical and Thread**  
Federal Products Corp., Providence, R. I.

**Gauges, Taper**  
Hartford Special Mch. Co., Hartford, Conn.

**Gear Cutters**  
Triplex Machine Tool Corp., 50 Church St., New York

**Gear Hobbers**  
Triplex Machine Tool Corp., 50 Church St., New York

**Gears**  
Boston Gear Works Sales Company, Norfolk Downs, Mass.  
Chicago Stock Gear Works, 105 S. Jefferson, Chicago  
Foote Bros. Gear & Machine Co., 213 Curtis St., Chicago  
Massachusetts Gear & T. Co., Weburn, Mass.

**Grinding Machines, Belt**  
Gallmeyer & Livingston Co., Grand Rapids, Mich.  
Peerless Surfacing Machine Co., Troy, N. Y.  
Walls Sales Corp., 96 Warren St., New York

**Grinding Machines, Bench**  
Carroll Mfg. Co., L. W., Batavia, Ohio  
Gallmeyer & Livingston Co., Grand Rapids, Mich.

Hill-Curtis Co., Kalamazoo, Mich.  
Hisey-Wolf Machine Co., Cincinnati, O.  
Standard Electrical Tool Co., Cincinnati, O.

**Grinding Machines, Cutter, Resamer and Tool**  
Gallmeyer & Livingston Co., Grand Rapids, Mich.

Jarecki Mch. & T. Co., Grand Rapids, Mich.  
LeBlond Mch. Tool Co., B. K., Cincinnati, O.  
National Machine Tool Co., Racine, Wis.  
Oesterlein Machine Co., Cincinnati, Ohio  
Oliver Instrument Co., Adrian, Mich.  
Stevens Inc., John B., 27 Cleveland Place, New York  
Thompson Grinder Co., Springfield, Ohio

**Grinding Machines, Cylindrical**  
Jarecki Mch. & T. Co., Grand Rapids, Mich.  
Thompson Grinder Co., Springfield, Ohio

**Grinding Machines, Die**  
Gallmeyer & Livingston Co., Grand Rapids, Mich.  
Jarecki Mch. & T. Co., Grand Rapids, Mich.  
Thompson Grinder Co., Springfield, Ohio

**Grinding Machines, Disc**  
Gallmeyer & Livingston Co., Grand Rapids, Mich.  
Porter Cable Machine Co., Syracuse, N. Y.

**Grinding Machines, Drill**  
Gallmeyer & Livingston Co., Grand Rapids, Mich.  
Oliver Instrument Co., Adrian, Mich.

**Grinding Machines, Face**  
Rogers & Co., Samuel C., Buffalo, N. Y.  
Taylor & Fenn Co., Hartford, Conn.

**Grinding Machines, Flexible Shaft**  
Keller Mch. Eng. Corp., 68A Washington St., Brooklyn, N. Y.

**Grinding Machines, Internal**  
Mall Tool Co., 8389 S. Chicago Ave., Chgo.  
National Machine Tool Co., Racine, Wis.  
Taylor & Fenn Co., Hartford, Conn.  
Thompson Grinder Co., Springfield, Ohio

**Grinding Machines, Knife and Shear Blade**  
Rogers & Co., Samuel C., Buffalo, N. Y.

**Grinding Machines, Portable Electric**  
Cincinnati Electrical Tool Co., Cincinnati, O.  
Hisey-Wolf Machine Co., Cincinnati, O.  
Keller Mech. Eng. Co., 68A Washington St., Brooklyn, N. Y.  
Mall Tool Co., 7730 S. Chicago Ave., Chgo.

National Machine Tool Co., Racine, Wis.  
Porter-Cable Machine Co., Syracuse, N. Y.  
Rogers & Co., Samuel C., Buffalo, N. Y.  
Standard Electrical Tool Co., Cincinnati, O.  
Stow Flexible Shaft Co., Philadelphia, Pa.  
Strand Co., N. A., 5001 N. Lincoln St., Chgo.  
Wedack Electric Tool Corp., 4629 W. Huron St., Chicago.

**Grinding Machines, Snagging**  
Gallmeyer & Livingston Co., Grand Rapids, Mich.

Hill-Curtis Co., Kalamazoo, Mich.  
Jarecki Mch. & T. Co., Grand Rapids, Mich.

**Grinding Machines, Surface**  
Gallmeyer & Livingston Co., Grand Rapids, Mich.

Illinois Machine & Mfg. Co., LaSalle, Ill.  
Rogers & Co., Samuel C., Buffalo, N. Y.  
Stevens Inc., John B., 27 Cleveland Place, New York  
Thompson Grinder Co., Springfield, Ohio

**Grinding Machines, Tap**  
Gallmeyer & Livingston Co., Grand Rapids, Mich.

**Grinding Machines, Tool**  
Hill-Curtis Co., Kalamazoo, Mich.  
Standard Electrical Tool Co., Cincinnati, O.  
Taylor & Fenn Co., Hartford, Conn.

**Grinding Machines, Universal**  
Gallmeyer & Livingston Co., Grand Rapids, Mich.  
Thompson Grinder Co., Springfield, Ohio

**Hack Saw Blades**  
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago  
Peerless Machine Co., Racine, Wis.  
Racine Tool & Machine Co., Racine, Wis.  
Simonds Saw & Steel Co., Fitchburg, Mass.

**Hack Saw Machines**  
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago  
Peerless Machine Co., Racine, Wis.  
Racine Tool & Machine Co., Racine, Wis.

**Hammers, Electric Drill**  
Wedack Electric Tool Corp., 4629 W. Huron St., Chicago.

**Handles, File**  
Hyro Mfg. Co., 352 W. 13th, New York.

**Handles, Soldering Iron**  
Hyro Mfg. Co., 352 W. 13th, New York.

**Hardness Testers**  
Wilson-Macaulen Co., Inc., 735 E. 143rd St., New York

**Hub Grinders**  
Triplex Machine Tool Corp., 50 Church St., New York

**Hoists, Portable**  
Canton Foundry & Machine Co., Canton, Ohio

**Hose Couplings**  
Hunt & Son, C. B., Salem, Ohio

**Hydraulic Machinery**  
Lourie Mfg. Co., 565 Washington, Chicago

**Index Centers, Single and Multi Spdl.**  
Stevens Inc., John B., 27 Cleveland Place, New York

**Jigs and Fixtures**  
Hartford Special Mch. Co., Hartford, Conn.  
Siewek Tool & Die Co., Detroit, Mich.

**Keyseating Machines**  
Baker Brothers, Inc., Toledo, Ohio.  
Burr & Son, John T., Brooklyn, N. Y.  
Chattanooga Mch. Co., Chattanooga, Tenn.  
Davis Keyseater Co., Rochester, N. Y.  
National Machine Tool Co., Cincinnati

**Lathe Accessories and Attachments**  
Cincinnati Lathe & Tool Co., Cincinnati, Ohio  
Sidney Machine Tool Co., Sidney, Ohio

## Classified Finding Index

### **Lathe Turrets**

Maxwell Products Co., Cleveland, O.

### **Lathes, Bench**

Hardinge Brothers, Inc., 1770 Berteau Ave.,  
Chicago  
Monarch Machine Tool Co., Sidney, O.

### **Lathes, Engine**

American Tool Works Co., Cincinnati, O.  
Bradford Machine Tool Co., Cincinnati, O.  
Carroll & Jamieson Mch. Tool Co., Batavia, O.  
Cincinnati Lathe & Tool Co., Cincinnati, O.  
Hamilton Tool Co., Hamilton, O.  
Hardinge Brothers, Inc., 1770 Berteau Ave.,  
Chicago

LeBlond Mch. Tool Co., R.K., Cincinnati, O.  
McCabe Lathe & Machinery Corp., J. J.  
149 Broadway, New York

Monarch Machine Tool Co., Sidney, O.  
Porter-Cable Machine Co., Syracuse, N. Y.  
Sidney Machine Tool Co., Sidney, Ohio  
Springfield Machine Tool Co., Springfield, O.

### **Lathes, Extension Bed Gap**

Wain-Larmon Co., Cincinnati, O.  
LeBlond Mch. Tool Co., R.K., Cincinnati, O.

### **Lathes, Gap**

LeBlond Mch. Tool Co., R.K., Cincinnati, O.

### **Lathes, Hand**

Stevens Inc., John B., 27 Cleveland Place,  
New York

### **Lathes, Manufacturing**

Cincinnati Lathe & Tool Co., Cincinnati, Ohio  
Sundstrand Machine Tool Co., Rockford, Ill.  
LeBlond Mch. Tool Co., R.K., Cincinnati, O.

### **Lathes, Precision**

Cincinnati Lathe & Tool Co., Cincinnati, Ohio  
LeBlond Mch. Tool Co., R.K., Cincinnati, O.

### **Lathes, Short Bed**

Monarch Machine Tool Co., Sidney, O.  
Porter-Cable Machine Co., Syracuse, N. Y.  
Sidney Machine Tool Co., Sidney, Ohio

### **Lathes, Tool Room**

Cincinnati Lathe & Tool Co., Cincinnati, Ohio  
Cisco Machine Tool Co., Cincinnati, Ohio

### **Lathes, Turret**

Bradford Machine Tool Co., Cincinnati, O.  
Cincinnati Lathe & Tool Co., Cincinnati, Ohio  
Monarch Machine Tool Co., Sidney, O.

### **Mandrels, Expanding**

Nicholson & Co., W. H., Wilkes-Barre, Pa.  
Western Tool & Mfg. Co., Springfield, O.

### **Mandrels, Hollow**

Hyno Mfg. Co., 352 W. 18th, New York

### **Mandrels, Solid**

Nicholson & Co., W. H., Wilkes-Barre, Pa.

### **Metalworker**

Shaw-Palmer-Bakewell Co., Los Angeles,  
Calif.

### **Milling Attachments**

Burke Machine Tool Co., Conneaut, Ohio  
Kearney & Trecker Corp., Milwaukee, Wis.  
LeBlond Mch. Tool Co., R.K., Cincinnati, O.  
Oesterlein Machine Co., Cincinnati, Ohio  
Porter-Cable Machine Co., Syracuse, N. Y.  
Stevens Inc., John B., 27 Cleveland Place,  
New York  
Taylor & Fenn Co., Hartford, Conn.

### **Milling Machines, Bench**

Burke Machine Tool Co., Conneaut, Ohio  
Sundstrand Machine Tool Co., Rockford, Ill.

### **Milling Machines, Hand**

Burke Machine Tool Co., Conneaut, Ohio  
Sundstrand Machine Tool Co., Rockford, Ill.  
U. S. Machine Tool Co., Cincinnati, O.

### **Milling Machines, Horizontal**

Oesterlein Machine Co., Cincinnati, Ohio

### **Milling Machines, Manufacturing**

Kearney & Trecker Corp., Milwaukee, Wis.

### **Milling Machines, Plain**

Burke Machine Tool Co., Conneaut, Ohio  
Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
Kearney & Trecker Corp., Milwaukee, Wis.  
LeBlond Mch. Tool Co., R.K., Cincinnati, O.  
Sundstrand Machine Tool Co., Rockford, Ill.

### **Milling Machines, Portable**

Pedrick Tool & Machine Co., Philadelphia

### **Milling Machines, Spine**

Taylor & Fenn Co., Hartford, Conn.

### **Milling Machines, Universal**

Kearney & Trecker Corp., Milwaukee, Wis.  
LeBlond Mch. Tool Co., R.K., Cincinnati, O.

### **Milling Machines, Vertical**

Burke Machine Tool Co., Conneaut, Ohio  
Kearney & Trecker Corp., Milwaukee, Wis.  
LeBlond Mch. Tool Co., R.K., Cincinnati, O.  
Taylor & Fenn Co., Hartford, Conn.

### **Mills, Adjustable Hollow**

Genesee Mfg. Co., Rochester, N. Y.

### **Mortisers, Electric Hand**

Wodack Electric Tool Corp., 4529 W. Huron  
St., Chicago

### **Meters, Electric**

Reliance Electric & Eng. Co., Cleveland

### **Name Plates, Etched and Stamped**

Schwerdtle Stamp Co., Bridgeport, Conn.

### **Nut Setters, Electric Hand**

Wodack Electric Tool Corp., 4529 W. Huron  
St., Chicago

### **Oil Cups**

Gills Bros. Mfg. Co., 1940 S. Kilbourn Ave.,  
Chicago

Tucker, W. W. & C. F., Hartford, Conn.

### **Oil Extractors**

Tolhurst Machine Works, Troy, N. Y.

### **Oil Hole Covers**

Tucker, W. W. & C. F., Inc., Hartford, Conn.

### **Pattern Shop Machinery**

Towseley Mfg. Co., John T., Cincinnati

### **Pins, Leader And Dowel**

Daily Machine Specialties, Inc., 4013 Lincoln  
Ave., Chicago

### **Pipe Bending Machines**

Pedrick Tool & Machine Co., Philadelphia

### **Pipe Cutters, Hand**

Saunders' Sons, D., Inc., Yonkers, N. Y.

### **Pipe Cutting and Threading Machines**

Gateman Mfg. Co., Manitowoc, Wis.  
Saunders' Sons, D., Inc., Yonkers, N. Y.

### **Pipe Threading Dieheads**

Saunders' Sons, D., Inc., Yonkers, N. Y.

### **Pipe Vises**

Saunders' Sons, D., Inc., Yonkers, N. Y.

### **Planers, Valve Seat, Portable**

Pedrick Tool & Machine Co., Philadelphia

### **Planing Machines**

Cincinnati Planer Co., Cincinnati, Ohio  
Cleveland Planer Co., Cleveland, Ohio

### **Point Thinning Machines**

Oliver Instrument Co., Adrian, Mich.

# Classified Finding Index

## Polishing and Buffing Machines

Cincinnati Electrical Tool Co., Cincinnati, O.  
Hill-Curtis Co., Kalamazoo, Mich.  
Hisey-Wolf Machine Co., Cincinnati, O.  
Mail Tool Co., 7730 S. Chicago Ave., Chicago  
New Britain Machine Co., New Britain, Conn.  
North Side Tool Co., Dayton, Ohio  
Standard Electrical Tool Co., Cincinnati, O.

## Presses, Arbor

Atlas Press Co., Kalamazoo, Mich.  
Lourie Mfg. Co., 665 Washington, Chicago  
Nicholson & Co., W. H., Wilkes-Barre, Pa.  
Sheldon Machine Co., 3253 Cottage Grove Ave., Chicago  
Wilson, R. K., Buffalo, N. Y.

## Presses, Broaching

Lourie Mfg. Co., 665 Washington, Chicago

## Presses, Drawing

Lourie Mfg. Co., 665 Washington, Chicago

## Presses, Flanging

Lourie Mfg. Co., 665 Washington, Chicago

## Presses, Foot

Rockford Iron Works, Rockford, Ill.  
Taylor & Fenn Co., Hartford, Conn.

## Presses, Forcing

Lourie Mfg. Co., 665 Washington, Chicago

## Presses, Forming

Lourie Mfg. Co., 665 Washington, Chicago

## Presses, Power

Handley & Whittemore Co., Beloit, Wis.  
Lourie Mfg. Co., 665 Washington, Chicago  
Rockford Iron Works, Rockford, Ill.

## Presses, Punch

Lewthwaite Mch. Co., T. H., 417 E. 31st St., N. Y.  
Rockford Iron Works, Rockford, Ill.

## Presses, Screw

Fall River Grinding & Machine Co., Fall River, Mass.  
Jarachi Mch. & T. Co., Grand Rapids, Mich.  
Towley Mfg. Co., John T., Cincinnati

## Presses, Wheel

Lourie Mfg. Co., 665 Washington, Chicago

## Profiling Machines

Offner Instrument Co., Adrian, Mich.

## Pulley Machinery

Avey Drilling Machine Co., Cincinnati

## Pulleys, Iron, Solid and Split

Conway Clutch Co., Cincinnati, O.

## Pumps, Coolant

Fulflo Specialties Co., Blanchester, O.  
Lobee Pump & Mch. Co., Buffalo, N. Y.

## Pumps, Hydraulic

Lobee Pump & Mch. Co., Buffalo, N. Y.  
Lourie Mfg. Co., 665 Washington, Chicago

## Pumps, Lubricant

Ruthman Machinery Co., Cincinnati, O.

## Punch Press Feeds

Rockford Iron Works, Rockford, Ill.  
Wittek Mfg. Co., 2522 S. Kedzie Ave., Chicago

## Punch, Shear and Bender, Hand

Armstrong-Hum Mfg. Co., 341 N. Francisco Ave., Chicago

## Punches, Hand

Armstrong-Hum Mfg. Co., 341 N. Francisco Ave., Chicago  
Handley & Whittemore Co., Beloit, Wis.  
Hyrro Mfg. Co., 353 W. 121st, New York  
Lewthwaite Mch. Co., T. H., 417 E. 31st St., New York  
Whitney Metal Tool Co., Rockford, Ill.

## Punches, Power

Handley & Whittemore Co., Beloit, Wis.

## Punches and Dies

Handley & Whittemore Co., Beloit, Wis.  
Lewthwaite Mch. Co., T. H., 417 E. 31st St., N. Y.  
Rockford Iron Works, Rockford, Ill.

## Pyrameters

Wilson-Masulen Co., Inc., 725 E. 143rd St., New York

## Racks, Bar Stock

New Britain Machine Co., New Britain, Conn.  
Pollard Bros. Mfg. Co., 4038 N. Tripp Ave., Chicago  
Yohe Supply Co., Wm. S., Canton, O.

## Reamers, Adjustable

Cleveland Twist Drill Co., Cleveland, Ohio.  
Schellenbach-Hunt Tool Co., Cincinnati, O.

## Reamers, Expanding

Lambert Mch. & Eng'g Co., Cleveland, O.

## Reamer Holders

Nicholson & Co., W. H., Wilkes-Barre, Pa.

## Reels, Extension

Cincinnati Specialty Mfg. Co., Cincinnati, O.

## Riveting Machine Equipment

Linsley Bros. Co., Bridgeport, Conn.

## Riveting Machines

Grant Mfg. & Mch. Co., Bridgeport, Conn.

## Rod Cutters

Armstrong-Hum Mfg. Co., 341 N. Francisco Ave., Chicago  
Handley & Whittemore Co., Beloit, Wis.  
Lewthwaite Mch. Co., T. H., 417 E. 31st St., N. Y.  
Tucker, W. W. & C. F., Inc., Hartford, Conn.

## Rotary Tables, Hand Feed

Stevens Inc., John B., 27 Cleveland Place, New York

## Saw Sharpening Machines

Huther Bros. Saw Mfg. Co., Rochester, N. Y.  
Rogers & Co., Samuel C., Buffalo, N. Y.  
Wardwell Mfg. Co., Cleveland, O.

## Saws, Electric Hand

Wodack Electric Tool Corp., 4629 W. Huron St., Chicago

## Saws, Metal Cutting Circular and Band

Huther Bros. Saw Mfg. Co., Rochester, N. Y.  
Simonds Saw & Steel Co., Fitchburg, Mass.

## Scraping Machines, Hand & Pneumatic

Anderson Brothers Mfg. Co., Rockford, Ill.

## Screw Drivers, Electric

Hisey-Wolf Machine Co., Cincinnati, O.

## Screw Driving Machines, Automatic

Reynolds Machine Co., Mansfield, Ohio

## Screw Machines, Automatic

New Britain Mch. Co., New Britain, Conn.

## Seam Welders, Electric

Welding Appliance Co., 2111 W. Lake St., Chicago

## Set-Up Appliances

Standard Shop Equip. Co., Philadelphia, Pa.

## Shafts, Flexible

Keller Mech. Eng. Corp., 58A Washington St., Brooklyn, N. Y.  
Mail Tool Co., 7730 S. Chicago Ave., Chgo.  
Stow Flexible Shaft Co., Philadelphia, Pa.  
Strand Co., N. A., 5001 N. Lincoln St., Chgo.

## Shafts, Steel

American Hollow Boring Co., Erie, Pa.

## Shaping Machines

American Tool Works Co., Cincinnati, O.  
Osborne & Sexton Mch. Co., Columbus, O.  
Rhodes Mfg. Co., Hartford, Conn.  
Smith & Mills Co., Cincinnati  
Springfield Machine Tool Co., Springfield, O.

## Shears, Alligator

Canton Foundry & Machine Co., Canton, O.

# Classified Finding Index

**Shears, Hand**  
 Armstrong-Hum Mfg. Co. 341 N. Francisco  
 Av., Chicago  
 Hendley & Whittemore Co., Baillet, Wis.  
 Lewthwaite Machine Co., T. H., 417 E. 31st  
 St., New York  
 Tucker, W. W. & C. F., Inc., Hartford, Conn.  
 Whitney Metal Tool Co., Rockford, Ill.

**Shears, Power**  
 Hendley & Whittemore Co., Baillet, Wis.  
**Slotting Machines**  
 Rhodes Mfg. Co., Hartford, Conn.  
**Slotting Machines, Screw Head**  
 Stevens Ins., John B., 27 Cleveland Place,  
 New York

**Spacing Washers**  
 Detroit Stamping Co., Detroit, Mich.  
**Special Tools and Machinery**  
 Bradford Machine Tool Co., Cincinnati, O.  
 Foote Bros. Gear & Machine Co., 213 Curtis  
 St., Chicago  
 Gaterman Mfg. Co., Manitowoc, Wis.  
 Illinois Machine & Mfg. Co., LaSalle, Ill.  
 Stecher Co., Chas., 2452 N. Greenview Ave.,  
 Chicago  
 U. S. Tool Co., Inc., Ampere, N. J.

**Speed Reducers**  
 Foote Bros. Gear & Machine Co., 213 Curtis  
 St., Chicago

**Sprockets**  
 Foote Bros. Gear & Machine Co., 213 Curtis  
 St., Chicago  
 Massachusetts Gear & T. Co., Woburn, Mass.

**Stamps, Steel and Rubber**  
 Schwerdtle Stamp Co., Bridgeport, Conn.  
**Stencils, Brass and Oil Board**  
 Schwerdtle Stamp Co., Bridgeport, Conn.

**Steels and Chairs, Factory**  
 Chicago Wire Chair Co., 619 N. La Salle St.,  
 Chicago  
 Pollard Bros. Mfg. Co., 4088 N. Tripp Ave.,  
 Chicago

**Straightening Machines**  
 Springfield Machine Tool Co., Springfield, O.  
 Towley Mfg. Co., John T., Cincinnati  
 Whitney Metal Tool Co., Rockford, Ill.

**Stud Setters**  
 Proconer Safety Chuck Co., 18 S. Clinton  
 St., Chicago

**Tap Extractors**  
 Walton Co., Hartford, Conn.

**Tap Holders**  
 Gaterman Mfg. Co., Manitowoc, Wis.  
 Proconer Safety Chuck Co., 18 S. Clinton  
 St., Chicago

**Tapping Machines and Attachments**  
 Alto Mfg. Co., 1647 Wofram St., Chicago.  
 Avey Drilling Machine Co., Cincinnati  
 Baker Brothers, Inc., Toledo, Ohio.  
 Burke Machine Tool Co., Cosneaut, Ohio  
 Eastern Tube & Tool Co., Inc., 580 Johnson  
 Ave., Brooklyn, N. Y.  
 Gaterman Mfg. Co., Manitowoc, Wis.  
 Hammond Mfg. Co., Cleveland, Ohio  
 Leland-Gifford Co., Worcester, Mass.  
 Proconer Safety Chuck Co., 18 S. Clinton  
 St., Chicago

Rickert-Shafer Co., Erie, Pa.  
 Whitney Metal Tool Co., Rockford, Ill.

**Thread Dies**  
 Colven, J. M., Yonkers, N. Y.

**Thread Millers**  
 Triplex Machine Tool Corp., 60 Church St.,  
 New York

**Threading Machines**  
 Gaterman Mfg. Co., Manitowoc, Wis.  
 Rickert-Shafer Co., Erie, Pa.

**Threading Tools**  
 Armstrong Bros. Tool Co., 308 N. Francisco  
 Av., Chicago

**Tool Holder Bits**  
 Simonds Saw & Steel Co., Fitchburg, Mass.

**Tool Holders**  
 Armstrong Bros. Tool Co., 308 N. Francisco  
 Av., Chicago  
 Western Tool & Mfg. Co., Springfield, O.

**Tool Racks**  
 Chicago Wire Chair Co., 619 N. La Salle St.,  
 Chicago

**Tool Stands**  
 Pollard Bros. Mfg. Co., 4088 N. Tripp Ave.,  
 Chicago

**Tools, Boring**  
 Armstrong Bros. Tool Co., 308 N. Francisco  
 Av., Chicago

**Tools, Lathe and Planer**  
 Armstrong Bros. Tool Co., 308 N. Francisco  
 Av., Chicago

**Tools, Machinists'**  
 Armstrong Bros. Tool Co., 308 N. Francisco  
 Av., Chicago

**Tools, Spot Facing**  
 Genesee Mfg. Co., Rochester, N. Y.

**Trucks, Machine Shop**  
 New Britain Machine Co., New Britain, Conn.  
 Pollard Bros. Mfg. Co., 4088 N. Tripp Ave.,  
 Chicago

**Towley Mfg. Co., John T., Cincinnati**  
**Turntables**  
 Canton Foundry & Machine Co., Canton, O.

**Universal Joints**  
 American Tool Works, Inc., Hartford, Conn.  
 Burgess Mfg. Co., Inc., Torrington, Conn.  
 Boston Gear Works Sales Company, Norfolk  
 Downs, Mass.

**Used and Rebuilt Machinery**  
 Bath & Co., Cyril J., Cleveland, O.  
 Bennett Mch. Co., 60 Church St., New York  
 Bernstein & Co., Geo. M., 549 W. Washing-  
 ton Blvd., Chicago  
 Bertolette Machine Tool Co., Inc., Jersey  
 City, N. J.

Brown Machinery Co., St. Louis, Mo.  
 Brownell Machinery Co., Providence, R. I.  
 Carlson Machinery Co., Davenport, Iowa  
 Central States Machinery Co., 134 South  
 Clinton, Chicago  
 Cincinnati Mch. & Supply Co., Cincinnati, O.  
 Clinton Mch. Co., 128 S. Clinton St., Chgo.  
 Davis Machinery Exchange, Toledo, O.  
 Detroit Machinery Exchange, Detroit, Mich.  
 Donahue Steel Products Co., 74th and  
 Ashland Ave., Chicago

**Eastern Machinery Co., Cincinnati, O.**  
 Economy Machinery Co., Cincinnati, Ohio  
 Emerman & Co., Louis E., 1761 Elston Av.,  
 Chicago

**Empire Machinery Exchange Co., Inc.,**  
 Cleveland, Ohio  
 Easley Machinery Co., E. L., 555 Washington  
 Blvd., Chicago

**Footer Machinery Co., Cleveland, O.**  
 Harris Bros. Co., 35th & Iron, Chicago  
 Hill, Clarke & Co., 649 W. Washington  
 Blvd., Chicago

**Hyman & Sons, Joseph, Philadelphia**  
**Indianapolis Mch. & Supply Co., Indian-**  
**apolis, Ind.**

**International Mch. Co., Detroit, Mich.**  
 Johnson & Sons Machinery Co., Wm. C.,  
 St. Louis, Mo.

**Jones Machine Tool Co., Cincinnati, O.**  
 Kinsey Co., E. A., Cincinnati, O.  
 Klauber Mch. Co., E. L., St. Louis

**Lee Machinery Co., Inc., Detroit, Mich.**  
 Little Co., W. P., Cleveland, O.  
 Lucas & Son, Inc., J. L., Bridgeport, Conn.

**McCabe Lathe & Machinery Corp., J. J.,**  
 149 Broadway, New York  
 McDonald Machinery Co., St. Louis

**McMullen Mch. Co., Grand Rapids, Mich.**  
 Manning, Maxwell & Moore, Inc., 27 No.  
 Jefferson, Chicago

**Marr-Galbreath Mch. Co., Pittsburgh, Pa.**  
 Midwest Equip. Co., 1719 Van Ruren Chgo.  
 Mid-West Machine Tool & Supply Company,  
 Davenport, Iowa

**Miles Machinery Co., Saginaw, W. S., Mich.**

## Classified Finding Index

### Used and Rebuilt Machinery—Cont.

Melitor Machy. Co., Chas., 118 S. Clinton St., Chicago  
 Morey and Co., Inc., 408 Broome St., N. Y.  
 Motch & Merryweather Machinery Co., Cleveland, O.  
 Nelson Machinery Co., Green Bay, Wis.  
 Niles Tool Works Co., Hamilton, O.  
 Norton-Broadway Mch. Co., Cincinnati, O.  
 O'Brien Machinery Co., Philadelphia  
 Osborne & Sexton Machy. Co., Columbus, O.  
 Randle Machinery Co., Cincinnati, O.  
 Reeve-Fritts Co., 37 S. Desplaines, Chicago  
 Reliance Mch. Sales Co., Pittsburgh, Pa.  
 Riverside Machinery Depot, Detroit, Mich.  
 Rosenfeld Mch. Co., 342 W. Lake St., Chgo.  
 Russell Machine Co., Pittsburgh, Pa.  
 Saltzman R. L., 624 W. VanBuren St., Chgo.  
 Scott-Bansbach Mch. Co., 130 S. Clinton, Chicago  
 Selfrest-Elstad Machinery Co., Dayton, O.  
 Severin-Strafer Machinery Corp., 30 Church St., New York  
 Simmons Machine Tool Corp., Albany, N. Y.  
 Steehr Machinery Co., A. M., 418 Mid-City Bank Bldg., Chicago  
 Strong, Carlisle & Hammond Co., Cleveland  
 Syracuse Supply Co., Syracuse, N. Y.  
 Taylor-Hall Welding Corp., Worcester, Mass.  
 Tranter Mfg. Co., Pittsburgh, Pa.  
 Tubor, Velick & Co., Inc., Lake & Desplaines Sts., Chicago  
 United Mch. & Supply Co., St. Louis  
 Wayne Machinery Co., Ft. Wayne, Ind.  
 Wertman Mch. Co., M. A., Cleveland, O.  
 West Penn Machinery Co., Pittsburgh, Pa.  
 White Machy. Co., A. D., 108 N. Jefferson St., Chicago  
 Winterer, Herman L., Philadelphia

### Vises, Drilling Machine

Armstrong-Baum Mfg. Co., 341 N. Francisco Ave., Chicago

Armstrong Bros. Tool Co., 308 N. Francisco Ave., Chicago  
 Central Distributing Co., Detroit, Mich.  
 Marsh Machinery Co., A. R., Cleveland, Ohio  
 Martin Tool & Die Works, J. R., Springfield, O.  
 Sheldon Machine Co., 3253 Cottage Grove Ave., Chicago

### Vises, Machinists'

New Britain Machine Co., New Britain, Conn.  
 Sheldon Machine Co., 3253 Cottage Grove Ave., Chicago  
 Western Tool & Mfg. Co., Springfield, O.

### Vises, Milling Machine

Hartford Special Mch. Co., Hartford, Conn.  
 Marsh Machinery Co., A. R., Cleveland, Ohio  
 Sheldon Machine Co., 3253 Cottage Grove Ave., Chicago  
 Stevens Inc., John B., 27 Cleveland Place, New York

### Vises, Shaper

Sheldon Machine Co., 3253 Cottage Grove Ave., Chicago

### Welders, Electric Spot

Taylor-Winfield Corp., Warren, O.

### Welding Head, Seam, Electric

Welding Appliance Co., 2111 W. Lake St., Chicago

### Wood Working Machinery

Hendley & Whittemore Co., Beloit, Wis.  
 New Britain Machine Co., New Britain, Conn.  
 Porter-Cable Machine Co., Syracuse, N. Y.  
 Towsley Mfg. Co., John T., Cincinnati

### Worms

Massachusetts Gear & T. Co., Woburn, Mass.

### Wrenches, Nut

Greene, Tweed & Co., 109 Duane St., N. Y.

### Wrenches, Ratchet

Greene, Tweed & Co., 109 Duane St., N. Y.

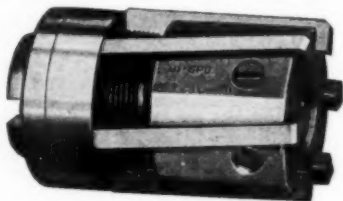
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**Use POLLARD-ALL-STEEL** benches. No oil-soaked tops to catch fire; no splinters or sharp edges to endanger workmen's hands; no warping; no shrinking. And **POLLARD** construction knows no substitute for quality.

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4035 No. Tripp Ave., Chicago, Ill.

## **"X-L" Adjustable Inserted Spiral Blade Shell and Machine Reamer**



Reamers made with Left Hand Angle Cutting Blades do not dig in, and all chatter is eliminated. This means free, clean cutting, smooth holes, and increased production.

The range of expansion is from .100" in the smaller sizes to .150" in the larger sizes. Made with High Speed Steel Blades.

This is a real production reamer. The left hand helical flutes cut fast and clean. Made only in high speed steel. Made with straight and tapered shanks.



**All Sizes Carried in Stock**

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### **The Schellenbach-Hunt Tool Co.**

**118 Opera Place, Cincinnati, Ohio**

**Agents: E. E. Fletcher, 6007 Euclid Ave., Cleveland, Ohio**



## Used and Rebuilt Machinery Section

Lists of Used and Rebuilt Machinery, either For Sale, Wanted or For Exchange, set in uniform style, will be published in the Classified Section at the rate of **50 cents a line**, across the page, each issue, plus **\$2.50** for name and address. Minimum charge, **\$5.00**. No display permitted.

**Write directly to those offering the machines for sale** for prices and full descriptions. If what you seek is not advertised, use the blank enclosed to make known your wants to the publisher, who will pass them along to all Machine Tool Blue Book advertisers.

### FOR SALE BY

**Arthur C. Badger Metal Products Co.**  
**962 Park Square Bldg.** . . . . **Boston, Mass.**

#### OVEN FURNACE

One Stewart oven furnace, 48" wide, 36" high, 54" deep, 6" opening with cover in door, heated by gas. In good condition, practically unused.

### FOR SALE BY

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#### TOTE BOXES

1,000 brand new nesting type tote Boxes, 20x12x6 $\frac{1}{2}$ , 16 gauge steel with lapped corners and draghole handles, at \$1.00 each.

### FOR SALE BY

**J. Bleser Mfg. Co.,** . . . . **16th & Madison Sts., Springfield, Illinois**

Grinders, Landis No. 1 $\frac{1}{2}$  & 2 univ.  
 Lathe, Lodge & S. 36"x18", q. c.  
 Lathe, Prentiss 25"x16", s. c. g.  
 Lathe, engine, 16"x8" G. & K., q. c.  
 Lathe, 14"x6" Monarch, q. c.

Miller, No. 3 univ., O. type.  
 Millers, No. 3 Burke, Rockford.  
 Punch press, No. 3-A Walsh arch.  
 Screw machine, No. 4 Warner & S.  
 Shapers, Smith & Mills, 16", 12".

### FOR SALE BY

**Detroit Machinery Exchange, 8637 Kercheval Ave., Detroit, Mich.**

Grinder, No. 70 Heald.  
 Lathe, 16"x5' heavy duty, production.  
 Mill, No. 3 Cincinnati vertical.  
 Mill, No. 3-B Brown & Sharpe heavy.  
 Tapper, No. 2 B. G. Garvin.  
 100-2-15/16 Hyatt roller bearings \$3.50 each.

### FOR SALE BY

**Miles Machinery Co.,** . . . . **Saginaw, W. S., Mich.**

Automatics, No. 00 Brown & S.  
 Automatic, Hartness tilted.  
 Drills, 21" Cincinnati.  
 Drill, 24" Milwaukee.  
 Drill, 32" Superior.  
 Drill, radial, 34" American.  
 Drill, multiple, No. 3 Natco.  
 Filing mche., No. 2 Cochrane-Bly.  
 Grinders, 6x32", 10"x36" & 14"x72"  
 Norton.  
 Grinders, 6"x18", 10"x20" & 10"x36"  
 Landis.  
 Grinders, int., Nos. 70 & 75 Heald.

Grinder, disc, 24" Gardner.  
 Lathe, 24"x12" Milwaukee.  
 Lathe, turret, 24" and 36" Bullard.  
 Mill, boring, 96" Betts.  
 Millers, Nos. 2 & 3 Cincinnati.  
 Millers, univ., Nos. 2 & 3 B. & S.  
 Miller, vert., No. 4 Cincinnati.  
 Oil groover, No. 1 Fischer.  
 Planer, 30"x30"x8' Gray.  
 Planer, 48"x48"x12' Pond.  
 Press, No. 96B Toledo.  
 Shear, plate, 4" Kling.  
 Upsetter, 2" Acme.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**Tranter Manufacturing Co., - 105 Water St., Pittsburgh, Pa.**

Drill, electric;  $\frac{1}{2}$ " U. S., 110 v. new.  
Drill, portable electric  $\frac{1}{4}$ " 220 v., 3 ph., 60 cy., bargain.  
Drill, Silver 19", post and c. s., new.  
Forge and anvil, Champion No. 31, new.  
Grinder, 8" U. S. electric bench, 110 v., new, special price.  
Grinder and buffer, Clizbe No. 10-A.  
Grinder, Mummert Dixon, oilstone and c. s. very good condition.  
Grinder and twist drill attach., Wilmarth & Morman, J. B.  
Woodworker, Detroit No. 14, for shop maintenance work.

### FOR SALE BY

**Marr-Galbreath Machinery Co.,**

**58 Water St., Pittsburgh, Pa.**

Air compressor, 12 cu. ft. Natl. belt.  
Air compressor, No. 4 Curtis (new).  
Air compressor, 25 cu. ft. Caldwell.  
Air comp. 8x6, dble cyl.  
Arbor presses, Nos. 0, 1, 2 & 3.  
Band saw, 36" cross-cut (Wood).  
Bolt cutter, 14" Morgan, double hd.  
Bolt cutter, 14" Acme, triple head.  
Boring machine, Rockford No. 2 horizontal,  $\frac{3}{4}$ " bar.  
Cold saw, 3" Vandyke.  
Derrick, steel, stiff lg. 15-ton, 60' boom.  
Die sinker, Jackson, 45" x13".  
Draw bench, Oliver 6' belted.  
Drills, 26" Barnes, b. g., p. t.  
Drill, 32" Cincinnati, b. g. p. f., m. d.  
Floor crane, 4000 lb. cap., (hand).  
Forging mach., 3" Acme, steel, m. d.  
Forging and rivet header, 1" Ajax.  
Gear and pinion cutter, No. 3 Sloan & Chace.  
Grinder, No. 1 Norton univ. t. & c.  
Grinder, No. 18-D Rowbottom.  
Grinder, No. 60 Heald, 19" arm.  
Hack saw, Atkins, cap. 8"x8".  
Hack saws, Nos. 1 & 2 Marvel.  
Hammer, 2500 lb. Chbg., s. f. steam.  
Hammer, 8000 lb. Chbg. dbl. frame.  
Hammers, stm. s. f. 600, 1100, 1500 lbs.  
Hammers, 40 lb. Bradley.  
Hammer, 250 Chbg. board drop.  
Hammer, drop, 100 lb. Toledo.  
Keyseater, No. 2 Davis.  
Keyway cutter, 24" Morton, cap. 24".  
Lathe, 6"x24" Wade, bench.  
Lathe, 9" Hardinge, turret, bench.  
Lathes, 17"x6" R-L, q. c. g.  
Lathes, 18"x8" R-P, geared head.  
Lathe, 18"x8" Cisco, q. c. g.  
Lathe, 18"x9" Lehman, q. c. g. t. a.  
Lathe, 18"x12" Lodge & Shipley q. c. g., t. a.  
Lathe, 24"x10" Putnam, taper attach.  
Lathe, 36"x64" Bridgeford gum boring m. d.  
Lathe, 34"x24" H. S. & G., q. c. g., m. d.  
Miller, vertical "C", Becker, s. p. d.  
Miller, vert. No. 4-B Becker, for m. d.  
Miller 3-H. LeBlond, univ.

Miller, No. 3-B Milwaukee, s. p. d.  
Miller, pl. No. 2 Cincinnati, cone.  
Miller, No. 0 Kempsmith univ.  
Miller, duplex Knight, table 8"x32".  
Motor, 3 h. p. 1/60/110-220/1200 rev.  
Motor, 15 h. p. 220 v. d. c. 300/1200 rev.  
Motors, 20 & 50 h. p. 3/60/220/900.  
Oil separators,  $\frac{1}{2}$  & 14 bu. cap.  
Pipe machine, 4" Williams, m. d.  
Planer, 36"x36"x8" L. & D., 3-heads.  
Press, No. 14 Stiles (Bliss) plain.  
Press, 32 Ferracute, punch.  
Press, D. G. 62, Ferracute, s. s.  
Press, No. 194 Bliss, o. b. i., a. c. motor, new.  
Presses, No. 87 Niagara, screw.  
Punch, 30" thrt., 1"x1" m. d., s. e.  
Punch, horiz., 14"x1": 12" tht, m. d.  
Punch & shear, 36" Cleve., e. f. a. j.  
Punch and shear, s. e. 6" thrt.  $\frac{1}{2}$ x $\frac{1}{2}$ .  
Punch, coping, steel plate, 13" thrt.  
36" die space, 2 holes 1"x1", m. d.  
Radial drill, 24" Fossdick, t. a.  
Riveter, Allen jaw, 36" cap. 14".  
Riveter, 4" Shuster rotary, belt.  
Rolling mills, Nos. 3 & 4 Buffalo.  
Saw, Burke, 12" blade, capacity.  
Saw table, No. 260 F. & E., (wood).  
Screw mach., 10" P. & W. pl., w. f.  
Shaper, 7" Rhodes, vise.  
Shaper, 6" Pratt & Whitney.  
Shaper, 14" Springfield, crank.  
Shaper, 20" Milw. b. g. crank.  
Shaper, 26" Smith & Mills, b. g., cr.  
Shaper, 24" Jungst., b. g., crank.  
Shaper, 24" Niles-Bement-Pond, cr.  
Shear, 10-P. Lennox serpentine.  
Shear, alligator, 14" round.  
Shear, rotary, 12" thrt., cap. 22 ga.  
Shear, rotary bevel, Lennox  $\frac{1}{2}$ " m. d.  
Shear, squaring, 8"x14 ga. power.  
Shear, bar, Braun, cap. 1" hand.  
Turbo compres., Spencer 5400 c. f. m.  
Turret lathe, 13" Gisholt, 24" h. s.  
Turret lathe, 25" Gisholt, 34" h. s., t. a.  
Turret lathe, 2"x24", J. & L., s. p. d.  
Turret lathe, 18" W. & S. friction hd.  
Wheel press, 200-ton Niles hyd., 48".

## USED AND REBUILT MACHINERY

### FOR SALE BY

Herman L. Winterer,

943-53 N. Front St., Philadelphia, Pa.

#### LATHES.

43"x17' 44" Bement-Miles.  
37"x14' Johnson d. b. g., q. c. f., t. a.  
32"x12' Pittsburgh, heavy duty, q. c. g.  
27"x12' Bullard.  
26"x11' Wickes, q. c. g.  
25"x10' Niles, q. c. g.  
19"x10' Draper, patent head.

18" x 7' Chard, d. b. g., semi q. c. g.  
15"x 8' Sidney, q. c., d. b. g., t. a.  
14"x 6' Springfield, latest type, tool room type, t. a.  
14"x 6' Lodge & Shipley, patent head, taper, pan bed.  
14"x8' Lodge & Shipley, q. c.

#### TURRET LATHES.

31"x28" Pond, triangle.  
3x36" Pratt & Whitney, hollow hex.  
19"x7' Fay & Scott, back grd.  
No. 22½ Garvin Monitor.  
14" x 6 Warner & Swasey.

No. 3 Foster sc. machines 1-5/16" wire feed, (2).  
14"x9" Cincinnati-Acme, wire feed.  
No. 4 B. & S., bar feed, all auto. fdg.  
No. 2 Smurr & Kamen, wire fd., (5).

#### DRILL PRESSES.

48" Almond, sens. radial, post type.  
40" Barnes horizontal radial.  
26" Aurora, sliding head.  
24" Foote-Burt heavy duty.

20" Excelsior, b. g.  
20" Champion, motor driven.  
20" Aurora, b. g., p. f.

#### MILLING MACHINES.

No. 5 Cincinnati, table 94"x50½"  
No. 5 Becker Brainard, vertical.  
No. 3 Brown & Sharpe, plain, cone type.  
No. 3 Hendey, q. c. g.

No. 1 Van Norman hand miller.  
No. 3 Becker-Brainard, new model, q. c. g., vertical attachment.  
No. 3 Becker universal milling machine.

#### PLANERS AND SHAPERS.

48"x37"x9' Sellers, 2 heads.  
48"x48"x12' Gray, 2 heads.  
48"x36"x14' Cincinnati, 4 heads.

30"x30"x8' American, 1 head.  
15" Lodge & Davis shaper.

#### BORING MILLS.

Boring mill, car wheel, 60" Newton.  
42" Bullard, 2 swivel heads, (2).  
Boring mill, No. 1 Sellers hor., 24" bar.

Boring, drilling and milling machine, 17½" Bement-Miles horiz.

#### PIPE AND BOLT MACHINES.

4" & 6" Eaton, Cole & B., pipe.  
6" Cox, quick opening dies.

4" Armstrong, No. 60 pipe machine.  
3" Cox, quick opening dies.

#### MISCELLANEOUS.

Arbor press, No. 8 Greenerd, 36" bet. columns.  
Centering mche., 5" Whiton, dbl. sp.  
Centering machine, 4" Hendey, motor driven.  
Cold saw, No. 6 Nutter & Barnes.  
Elec. hoist, 1-ton Link Belt, 2 ph. a. c.  
Gear shaper, No. 35 Fellows, straight and helical heads.  
Generator, No. 100 Oxweld acetyl.  
Grinder, 13½"x5' Landis universal.  
Grinder, No. 8 Diamond, double end, heavy type.  
Grinders, disc, No. 17 Besly.  
Grinders, several dbl. end electric.  
Hammers, 15, 25 & 40 lbs. Bradley helve.  
Hammer, No. 2 Beaudry-Champion, 50 lb.  
Hammers, 60 lb. Bellefonte upright, 2.  
Keyseater, Morton 19" stroke.

Keyseater, No. 4 Catlin, m. d.  
Punch press, No. 2 Cons., flywheel.  
Punch or gate shears, 72" Cleveland multiple, 15" throat.  
Punch & shear, No. 4 Long & A., double end, 24" throats.  
Punch and riveters, new Doty (2), one 35" stake and one 30½" stake.  
Punch presses, all sizes, (55).  
Riveter, 3/16" Grant, on column.  
Riveter, air, 6" gap Allen, cap. 1½".  
Riveter, air, 6" Allen, cap. ½".  
Saw, No. 7K Atkins Kwick-Kut.  
Rolls, 4' drop end corrugated.  
Saw, Q. M. & S. No. 4-B universal, 33" blade.  
Shear, 8' Ohl, No. 20 ga.  
Slotter, 14" Niles.  
Slotter, 3½" Rhodes vertical.  
Tire press, hyd., 60-ton Defiance.  
Tooth rounding machine, S. & S.

Send for our latest 44-page illustrated Catalog and Price List.

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### FOR SALE BY

**Foster Machinery Company, 10203 Quincy Ave., Cleveland, O.**

#### SHEARS.

12"x14 ga. Loy & Nawrath.

50"x4" Bertach, 15" throat.

Canton alligator, cap. 14" sq.

36"x18" gap, foot, Niagara.

#### MISCELLANEOUS.

Automatic, No. 24 New Britain.

Band saw, 24" woodworking.

Drill, multiple-spindle Bausch,

No. 3 Morse taper.

Drill, 14" Allen, ball bearing.

Press, No. 6 Niagara.

Punch, E.F. Cleveland, 72" thrt., m.d.

Riveter, High Speed 2A.

Upsetter, 3 1/2" Acme.

### FOR SALE BY

**Brownell Machinery Co., 150 Pine St., Providence, R. I.**

#### BORING MILLS.

51" Bullard vertical boring and turning mills (2).

#### GEAR CUTTERS.

No. 4, 48"x10" Brown & Sharpe spur gear cutters (3).

No. 3, 36"x 5" Brown & Sharpe spur gear cutters.

No. 3, 26"x 8" Brown & Sharpe spur gear cutters.

No. 2 Bilton automatic gear millers (3).

#### DRILLS.

5' Prentice Bros. radial.

3' gang plain radial.

2-spindle Avey h. s., b. b.

28" Snyder sliding head.

No. 1 Langelier h. s., b. b., 110 v. a. c.

No. 1 Langelier pl. bear. bench (6).

#### GRINDERS.

10"x120" Norton plain cylindrical.

No. 12 B. & S. plain 8x36.

No. 11 B. & S. plain 4x30.

No. 2 B. & S., surface.

No. 1 B. & S., surface.

No. 1 Norton, tool and cutter.

Nos. 2 & 3 B. & S. cutter & reamer.

20" Diamond standard.

14" Blount wet tool.

Heald twist drill.

Blake & Johnson surface.

#### LATHES.

30"x20" Fitchburg.

18"x 8" Prentice engine lathe.

24"x16" South Bend.

22"x26" Lodge & Shipley.

16"x 6" Pratt & Whitney.

12"x 8" Reed, taper.

Nos. 5 1/2 and 6 Sloan & Chace precision lathes.

#### MILLING MACHINES.

No. 4-A Brown & Sharpe universal.

No. 1 1/2 Brown & Sharpe universal.

No. 4-B heavy B. & S. plain, m. d.

No. 3-G. H. LeBlond heavy plain.

No. 2 B. & S. plain.

No. 2 B. & S. vertical.

No. 3-H Becker vertical profiler.

No. 1/2 Van Norman duplex.

No. 4 Thurston die.

Newton slab 28"x28"x13'.

Ingersoll adjustable rail inclined

26"x36"x12", m. d.

U. S. hand.

No. 3 B. & S. vertical attachments.

#### PLANERS AND SHAPERS

54"x42"x12' Gray, 3 heads.

48"x48"x16" Niles-Bement-P., 2 hds.

36"x36"x10' Woodward, m. d., 3 hds.

17"x20"x 4' Whitcomb.

24" Potter & Johnston shaper.

15" Potter & Johnston shaper.

24" Hendey friction shaper.

#### POWER & FOOT PRESSES.

No. 5 Manville s. a., p. p. roll feed.

No. 4 Manville s. a., p. p., ratchet dial feed.

No. 1 Bliss d. a. cam.

No. Standard power screw.

No. 6 Manville bench.

Bosworth foot presses, new (6).

#### SCREW MACHINES.

No. 3 Warner & Swasey, g. f. h., 1 1/2".

3"x36" Jones & Lamson, flat turret.

No. 0 Brown & Sharpe, hand, wire feed.

#### MISCELLANEOUS.

Band saw, 12" H. & R. metal cutting

Band saw, 36" H. B. Smith, wood wk.

Cutting-off machine, 3" H. & R. a.s.

Filing machine, Thurston.

Hammer, 125 lbs. Dupont "D".

Hammer, 200 lbs. Beaudry champion.

Rolling mill, toggle 12"x20".

Slotter, 12" Bement-Miles.

Shaft straightener, Rockford.

Wood worker, No. 35 Crescent univ.

# USED AND REBUILT MACHINERY

## FOR SALE BY

**The Reeve-Fritts Co., 558-560 W. Washington Blvd., Chicago, Ill.**

Automatic, 7-A Potter & Johnson.  
Die filer, No. 1 and No. 3 Barry.  
Drill, 2 1/2" C. & O. plain, radial.  
Drill, 20" Barnes, all grd.  
Gear cutter, No. 98 G. & E. spur & b.  
Grinder, Heco surface, 16"x24" table.  
Grinder, 5"x18" Ott plain.  
Lathe, No. 4 Elgin preci., with bench  
Lathe, 10"x5" P. & W., tool makers.  
Lathe, 11"x5" Barnes, c. r.  
Lathe, 16"x8" Flather, q. c. g.  
Lathe, 20"x8" Bradford.

Lathe, 24"x12" Peerless, c. r.  
Lathe, 9"x12" Sundstrand prod.  
Miller, No. 2 Rockford, plain.  
Miller, No. 2 Ford-Smith universal.  
Miller, Briggs Mig., 16, 28, 42" fds.  
Miller, No. 00 B. & S., hand  
Planer, 24"x24"x6" Rockford.  
Press, No. 3-P Am. Can solid bk.  
Press, No. 1 Massillon trim.  
Shaper, 7" Rhodes crank.  
Shop saw, 6x6 Racine h. s.  
Shop saw, 6x6 Peerless h. s.

## FOR SALE BY

**Severin-Strafer Machinery Corp., 30 Church St., New York City**

### BORING MILLS, VERTICAL.

60" Bullard, single pulley drive.  
48" Gisholt, rapid traverse.  
42" Bullard, turret head.  
52" Niles-B.-P. turret & plain head.

72" N. B. P. single pulley drive.  
96" Niles, belt drive.  
16" Niles belt drive.

### BORING MILLS HORIZONTAL.

5" bar Newark, knee type.  
5" bar Deitrick & Harvey, floor type.  
4 1/2" bar Niles-B.-P., floor type.

4" bar Detrick & Harvey, floor type.  
3" bar Lucas single pulley drive.  
3" bar Betts, knee type.

### MILLING MACHINES.

No. 3 Cincinnati, b. d.  
No. 3-B heavy Brown & Sharpe.

No. 2A Hendy-Norton univ.  
No. 4 Cincinnati, vertical.

### DRILLS.

5" Niles B. P., semi-universal radial,  
speed box drive, tilting table.  
No. 25 Foote-Burt, heavy duty.

24" Aurora sliding head.  
26" Prentice sliding head.

### HAMMERS

8000 lb. Chambersburg, d. f.  
1100 lb. N. B. P. single frame, steam.  
600 lb. N. B. P. single frame, steam.

400 lb. Chambersburg s. f., steam.  
400 lb. Bliss poppet board drop.

### LATHES.

57"x27" Pond triple geared.  
54"x24" H. S. and M. quick change.  
48"x18" Fifield t. g.  
36"x16" N. B. P., motor drive.  
30"x16" N. B. P., motor drive, d. c.  
24"x18" LeBlond q. c. & t. a.  
24"x14" Lodge & Shipley d. c. drive.

24"x12" Reed-Prentice, g. h.  
23"x14" LeBlond, heavy duty.  
18"x18" Reed, belt drive.  
18"x8" Fairbanks, double b. g.  
16"x8" Hendey.  
16"x6" Putnam, rebuilt.  
84" Niles slicing lathe.

### TURRET LATHES.

No. 2 Foster, screw machine.  
No. 4 Warner & Swasey with equip.

No. 1 B. & O. Fox monitor.  
Jones & Lamson, 24"x24"

### PLANERS.

10"x10"x22" Sellers.  
72"x72"x18 b. d. Deitrick & Harvey,  
3 heads.  
72"x72"x18" Pond, rev. motor drive.

60"x48"x14" Cincinnati, gr. box, m. d.  
48"x48"x14" Patch, 4 heads, b. d.  
30"x30"x16" Gray, 3 heads.  
22"x22"x4" Whitcomb, 1 head.

### MISCELLANEOUS.

Bending rolls, 12" Niles, 1/2 cap.  
Buffing jacks and wheels.  
Chain blocks, 1-ton with trolleys.  
Core wire straightener, 1/2" to 5/16".  
Dragline, 100' boom, 4 yd. motor d.  
Elevator, portable, 3'x4'x18".  
Gate shear, Morgan 2" 90" blade.  
Gate-shear, 92" blade, 1" cap.  
Gear cutter, No. 4-36" B. & S. auto.  
Gear cutter, No. 2 Bilton.

Generator, 100 k. w., a. c. Deisel.  
Hydraulic forging press, 1200 tons.  
Pipe machine, Saunders 6".  
Planer drive, 20 h. p., 220 v., d. c.  
Pumps, steam, 6x4x6 brass.  
Pumps, steam, 8x12x12 brass.  
Sand slinger for large foundry.  
Saw, Klem No. 1 band saw.  
Straightening rolls H. & J. 114"  
Wheel presses, 300 and 150 ton.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**L. H. Goodnow Foundry Co.,** - - - **Fitchburg, Mass.**

#### SURFACE PLATES.

Practically new.

1—Brown & Sharpe 36"x24".

1—Brown & Sharpe 24"x18".

### FOR SALE BY

**Carlson Machinery Co., Inc.,** - - - **Davenport, Iowa**

Boring mill, No. 2 Rockford horiz.  
Boring mill, No. 3-A Universal hor.  
Centering machine, 4" Pratt & W.  
Drill, 4" Sipp h.s.b.b., 8" overhang.  
Grinder, 10x20 Landis universal.  
Grinder, No. 2 Oakley univ. t. & c.  
Hobber, 24" Schuchardt & Schutte.  
Lathe, 7"x30" Dalton bench.

Lathe, 13"x5' Sheppard.  
Miller, No. 3 Ohio plain.  
Press, No. 4 Toledo o. b. i.  
Turret lathe, No. 4 W. & S. pl.  
Turret lathe, No. 6 Warner & S.,  
power feed to carriage and turret.  
Turret lathe, No. 3 Foster.

### FOR SALE BY

**Norton-Broadway Mchy. Co., Sixth & Baymiller Sts., Cincinnati, O.**

#### LATHES.

18"x8' Bradford stand. change, taper.  
20"x10' Hendey, q. c.  
20"x12' Bradford q. c.  
32"x16' Wickes.

38"x20' Bradford.  
42"x24' Bradford.  
24"x28"x14' McCabe, 3 spindle.

#### GRINDERS.

18"x96" Norton cylindrical.  
10"x72" Brown & S. cylindrical.  
Nos. 11 Brown & Sharpe cylindrical.  
No. 14 Pratt & W. vertical surface.

No. 60 Heald cylinder.  
Bath & Walker surface.  
No. 4 & No. 120 Gardner disc.  
6"x20" Webster & Perks.

#### MILLING MACHINES.

No. 3 LeBlond plain.  
No. 4 Becker plain horizontal.  
No. 13 Brown & Sharpe plain.

No. 4 Brown & Sharpe universal.  
No. 4 Cincinnati universal.  
No. 4B B. & S. heavy single pulley.

#### PRESSES.

No. 3 Toledo inclinable.  
No. 3-A Willard inclinable.  
No. 4 Toledo inclinable.  
No. 19-C Bliss inclinable.  
No. 183 Stiles Parker inclinable.

No. 723 Toledo inclinable.  
No. 1 Long & A. punch and shear.  
No. 3 Hilles & Jones double end  
punch and shear.  
No. 57 Toledo geared.

#### BORING MILLS.

34" Bullard, one turret head.  
36" Niles, 2 heads.  
42" Bullard, 2 heads.

42" Gisholt, 2 heads.  
50" Niles, 2 heads.  
6" Gray horizontal.

#### PLANERS.

24"x 8' Pond, 2 heads.  
30"x16' Gray, 2 heads.  
30"x 8' Gray, 2 heads.

36"x10' Fitchburg, 2 heads.  
Whitcomb crank planer, 12" stroke,  
172 between housings.

#### SHAPERS.

16" Steptoe, crank.  
16" Stockbridge, back geared.  
20" Ohio crank.

20" Smith & Mills, single pulley.  
24" Queen City, single pulley.  
20" and 24" Hendey.

#### MISCELLANEOUS.

Bulldozers, No. 3 Ajax with motors.  
Drill, H. & W. 5-spd., high speed.  
Drills, 3-4-5 and 6-spindle Francis  
Reed high speed.  
Drill, Kokomo 4 spd., high speed  
Drill, 3' Morris radial, gear box.  
Drill, 5' American radial, gear box.

Gear cutter, No. 3-26" Cinti. auto.  
Gear cutter, No. 5-48" B. & S.  
Gear hobber, 12" G. & E., univ. hd.  
Hammer, 30 lb. Bradley upr. helve.  
Press, 400 ton Caldwell wheel.  
Shear, 10' Bertsch square, 14 gauge.  
Welder, Winfield butt, 60 k. w. \$750.

And about 300 other good machine tools in stock.

## USED AND REBUILT MACHINERY

### FOR SALE BY

#### United Mchry. & Supply Co.,

Bulldozers, W. & W. No. 26 &  
Rock River No. 4.  
Drill press, 20" Barnes, camel back.  
Hammer, No. 150 W. & W., air.  
Lathe, 14" Fox and attachments.  
Punch, double & Rock River L-10.

#### 1241 Walton St., St. Louis, Mo.

Rolls, 6'x1" and 9'x1"  
Sand mixer, Simpson No. 2.  
Screw mchs., Nos. 53 & 55 Nat. Acme.  
Shear, Niagara No. 552, 52" x 18 ga.  
Shears, angle, 6"x6" and 2"x2".  
Upsetter, Acme 14", wt. 10-ton.

### FOR SALE BY

#### Mid-West Machine Tool & Supply Co.,

#### Davenport, Iowa

Automatics, full, No. 00 Brown & S.  
Grinders, No. 10 Brown & Sharpe.  
Grinder, Norton 10x36.  
Grinders, surface, No. 22, Heald.  
Hobber, Nos. 3, 12-B & C.  
Miller, No. 13-B B. & S., production.  
Partial list; send us your inquiries.

Miller, No. 0Y Brown & Sharpe.  
Miller, No. 3 Garvin duplex, 60"  
table feed (new).  
Radial, 4' American sensitive.  
Turret formers, Nos. 0 & 2 Brown &  
Sharpe.

### FOR SALE BY

#### Bessemer Gas Engine Co.,

#### Grove City, Pa.

No. 129—Boring mill, 24" Bullard vertical, 1 side head, 1 vertical head Serial No. 6028.....	\$ 600.
No. 620—Boring & milling machine, No. 145 Detrick & Harvey floor, size 72"x72".....	900.
No. 470—Boring mill, 86" Niles vertical, dia. table 66", 2 swivel heads on rail, friction feed, width of rail 21".....	1800.
—Boring mill, 60" Bullard, Serial No. 3711, 2 swivel heads on rail, gear feed, belt driven.....	1250.
No. 359—Boring mill, 72" Bullard, Serial No. 3442, 1 swivel head on rail, 1 special head for boring crank pin holes in head. This head can also be used for boring and turning. Dia. table 6', gear feed, belt dr. ....	1500.
No. 376—Drill, 36" Simplex radial.....	300.
No. 102—Drill, 48" Prentice radial.....	125.
—Drill press, 22" Hoefler.....	50.
No. 659—Drill press, Hammond sensitive, jointed arm.....	100.
—Drill press, 16".....	40.
No. 661—Drill press, 30" Weigle, with tap. att. and patent belt shifter.....	150.
No. 396—Drill press, 24" Aurora.....	100.
No. 375—Drill press, 12" U. S. sensitive.....	25.
No. 467—Drill press, Bausch 16-spindle, 14" spindle.....	180.
No. 181—Drill press, 72" Sellers radial, motor drive without motor.....	350.
No. 112—Drill press, 6" American, motor drive without motor.....	700.
No. 377—Drill press, Baker high speed, 34" spindle.....	300.
—Drill presses, 4" Colburn heavy duty, with adjustable table, both crosswise and up and down, (2) each.....	400.
No. 84—Lathe, 14"x5" American.....	90.
Nos. 342 & 3—Lathes, 24"x12" Putnam, motor dr. less motors, (2) each.....	200.
—Milling machines, 36"x36"x8" Beeman & Smith, 1 side head, 1 head on cross rail.....	800.
—Planer, 72"x60"16' Detrick & Harvey openside, 2 heads on cross rail, 1 side head, self contained countershaft, with motor bracket, no motor. This is a very good machine, the only thing that is wrong with it is that a small piece is broken out of tee slot on table—this does not effect the operating of the machine in any way.....	2000.
—Planer, 36"x36"x12" Cincinnati, 2 heads on rail, belt drive, very good condition.....	800.
No. 52—Shaper, 18" Smith & Mills.....	375.
No. 206—Shaper, 22" Smith & Mills.....	550.
No. 50—Threading machine, Acme double-spindle.....	154.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**Fitchburg Grinding Machine Corporation,**

**Fitchburg, Mass.**

#### LATHES.

LeBlond 14"x6'.  
Reed-Prentice 16"x8'.  
Putnam 14"x6'.

Greaves-Klusman 16"x8'.  
Perkins threading 21"x10'.  
New Haven 32"x12'.

#### PLANERS.

42"x36"x22' Whitcomb.  
32"x26"x16' Whitcomb, 2 heads.  
22"x22"x6' Whitcomb.

17"x20"x8' Whitcomb.  
30"x30"x8' Powell, 2 heads.

#### TURRET LATHES.

2 1/2"x24" J. & L., chuck equipment.  
3"x36" J. & L., chuck equipment,  
double spindle.

24"x26" Greenlee.  
16" Reed-Prentice.  
21" Gisholt.

#### MILLERS.

No. 1 Steptoe.

#### BORING MILLS.

3"x24" Rockford.

24" Reed-Prentice.

#### RADIAL DRILL.

3 1/2' Dreses.

### FOR SALE BY

**West Penn Machinery Company**

**1208 House Building,**

**Pittsburgh, Pa.**

Air comp., 10x10" Laidlaw, 275 cu. ft.  
Air comp., 8x8" Ing. Rand, 96 cu. ft.  
Bolt cutters, 1 1/2", 2", 3", 4" Landis.  
Boring mills, 30" to 16".  
Brake, 5'x16 ga. Robinson.  
Brake, 10'x3/16" Dreis & Krump.  
Brake, 10'x6" Ohl, 10 ga., press type.  
Bulldozer, No. 35 W. & W.  
Drills, 14" to 38".  
Drill, mult., No. 5 Fox, 10-spindles.  
Drill, radial, 6' Prentice, s. p. d.  
Flanger, McCabe, 1/2" capacity.  
Gear cutters, spur and bevel.  
Gear hobber, 98" Gould & E.  
Gear planer, 24" Gleason, bevel.  
Grinder, dbl., 14"x14", 220..3-40.  
Grinder, 12"x96" Norton, b. d.  
Grinder, disc, No. 52 Bealy.  
Grinder, planer type, 51" Springfield.  
Grinder, No. 22 Heald surt., 12" chk.  
Grinder, No. 16 Blanchard.  
Hammer, 75 lb. Bradley upr. helve.  
Hammer, 100 lb. Bradley upright.  
Hammer, 200 lb. Beaudry upright.  
Hammers, 3-B, 3-B & 4-B Nazel.  
Hammers, steam 600 lb. to 3000 lb.  
Keyseater, No. 2 Mitts & Merrill.  
Lathes, 12" to 60".  
Lathe, turret, 26" Libby.  
Lathes, turret, No. 4 W. & S.  
Miller, plain, No. 3-B Brown & S.  
Miller, univ. No. 2 Hendey, s. p. d.  
Miller, univ. No. 3 Brown & S.  
Miller, slab, 24"x20"x14" Ingersoll.  
Pipe machines, 24" to 12".  
Planer, 36"x36"x16" N-B.-P. like new.  
Planer, 42"x42"x12" Cincinnati, 2 hds.  
Planer, 36"x36"x20" Pond, 4 hds., m. d.  
Planer, 42"x42"x12" Detrick & H. o. s.

Planer, rotary, 48" Newton.  
Press, geared, No. 34 Toledo.  
Press, No. 374 Bliss, s. a., 6" stroke.  
Press, No. 594 Toledo.  
Press, toggle, No. 165 Toledo.  
Press, wheel, 150-ton Caldwell.  
Punch, hor., Cleveland, 1" thru 1".  
Punch No. 2 L. & A. 12" thr. arch jaw.  
Punch & s., L. & A. 30" thr., 1 1/4" thru 1".  
Riveter, Hanna, 18" thrt., 15" gap.  
Riveter, stake, No. 6 Whiting, 48" thrt.  
Rolling mill, 18" Standard.  
Rolls, angle bending, 2"x1 1/2" Bertsch.  
Rolls, bending, 42" Bertsch.  
Rolls, bending, 10"x8" Wickes.  
Rolls, straight'ng, 36"x16 ga., 17 r.  
Saw, cold, 24" Hunter high speed.  
Sandslinger, 11' tractor type.  
Shaper, 16" Smith & Mills, b. d.  
Shaper, 24" Stockbridge, b. d.  
Shear, angle, L. & A., 6"x16"x1 1/2".  
Shear, alligator, Garrison, 14" sq.  
Shear, alligator, No. 5 Canton, 3" sq.  
Shear, alligator, Mesta, 5"x5".  
Shear, bevel, Lennox 1 1/2".  
Shear, guil. No. 0 H. & J., 1 1/2" round.  
Shear, plate, 10"x1 1/2" Bertsch, 15" thrt.  
Shear, plate 10"x1 1/2" Morgan, 24" gap.  
Shear, rotary, No. 3 Quickwork 1 1/2".  
Shear, rotary, No. 6 Quickwork 1 1/2".  
Shear, squa. 12"x14 ga. Peerless.  
Shear, sq., 10"x3/16" W. & R., m. d.  
Shear, squar. 42"x3/16" Canton, b. d.  
Straightener, bar, No. 4-D K. & R.  
Straightener, beam, No. 4 H. & J.  
Swaging machine, 1" Langelier.  
Testing machine, 100,000 lbs.  
Welder, Gibb spot, 1/4", 32" thrt.  
Upsetters, 1 1/2" to 5".



## USED AND REBUILT MACHINERY

### FOR SALE BY

#### McMullen Machinery Company.

Automatics, 4" Cleveland, (2).  
Baling press, Chicago scrap metal.  
Cold Saw, No. 4 Greenfield.  
Drill, 20" Wisconsin all geared.  
Furnace, No. 200 Stewart, Crucible.  
Grinder, No. 6-A Bryant.

#### Grand Rapids, Mich.

Grinder, Wisconsin universal.  
Lathe, 24"x26" Greenlee flat turret.  
Pipe machine, 6" Merrill.  
Press, No. 3 Manville d. a.  
Press, No. 54 Consolidated.  
Welders, No. 10 Thomson, butt.

### FOR SALE BY

#### Rosenfeld Machinery Co., 942-944 W. Lake St., Chicago, Ill.

Broaching machine, No. 2 LaPointe (New London), with broaches.  
Grinder, No. 10 Besly disc.  
Milling machine, No. 2 Cincinnati universal, complete.  
Milling machine, 1B Milwaukee, single pulley drive with vise.  
Miller, Becker vertical, Model CS, rotary table.  
Motors, 1/2 h. p. to 100 h. p., a. c. and d. c.  
Punch press, 1-4P style, solid back.  
Vises, 100 new Rock Island, all sizes.

### FOR SALE BY

#### Chas. Molitor Machinery Co., 118-124 S. Clinton St., Chicago, Ill.

#### MILLERS.

No. 2B Kearney & Trecker univ.  
No. 3 Kempsmith universal.  
No. 2 Brown & Sharpe universal.  
No. 2 Rockford universal.  
No. 2 Rockford plain, single pulley.  
No. 1-Y Brown & Sharpe (2).

No. 2B plain B. & S. motor attach.  
No. 3 Becker vertical.  
Beaman & Smith vert. and horiz.  
30" Bullard vertical turret.  
24" Binnse horizontal, boring.  
Large variety of smaller millers.

#### LATHES.

36"x16" Bridgeford, grd. hd., q. c. g.  
26"x13" Wickes, semi-quick chg. gr.  
24"x12" Walcott, quick change gear.  
24"x12" LeBlond quick change gear.  
20"x10" LeBlond, q. c. g., heavy.  
18"x10" Boye & Emmes, q. c. g., taper.  
18"x8" Greaves-Klusman q. c. g.

18"x8" Sidney quick change gear.  
18"x8" American q. c. g., taper.  
16"x6" Sidney quick change gear.  
14"x 6" Hendey yoke head, taper, (2)  
12"x 9" Hendey yoke head, taper.  
14"x6" Davis q. c. gear, taper.  
14"x6" Bradford quick change gear.

#### RADIALS AND DRILL PRESSES.

4" Cincinnati-Bickford sgl. pulley.  
6-spindle Barnes b. g., power feed.  
1, 2, 4-sp. Leland-Gifford hi-sp. (10).

1, 2-spindle Avey Nos. 0, 1, 2 (6).  
2-spindle Cleveland, tap. att.  
Large variety plain drills, 12"-26".

#### PLANERS AND SHAPERS

30"x30"x8" American, 2 hds. on rail.  
24" Rockford geared crank.  
20" Gould & Eberhardt grd. crank.  
20" Queen City geared crank.  
20" Smith & Mills geared crank.

16" Rockford crank.  
16" Steptoe crank.  
15" Blaisdell crank shaper, planer type.  
14" Smith & Mills crank.

#### SCREW MACHINES AND TURRET LATHES.

No. 4 Warner & Swasey universal.  
No. 4 W. & S., b. g., friction hd. (4)  
No. 4 Warner & Swasey plain.  
No. 2 Warner & Swasey (4).  
No. 2 W. & S. hollow hex. turret.  
No. 2, 1, 0 B. & S. formers (12).  
No. 2 Brown & Sharpe semi-auto.

24" Steink turret lathes.  
24" Jones & Lamson.  
24" Pratt & Whitney.  
Large variety Fosters, Acme, V. O.  
No. 53 Nat-Acme, motor, att. (5).  
4", 3" Cleveland (5).  
5-spindle New Britain screw machine.

#### MISCELLANEOUS.

Bolt cutters, 1", 1 1/2", 2" Acme.  
Bolt cutters, 1", 1 1/2" Landis.  
Keyseaters, Nos. 0 & 2 Becker.  
Large stock of lathes, punch presses, plain and universal grinders, 2 1/2", 4", 5", 8", 10" power squaring shears, tappers, several hundred Warner & Swasey, etc., box, boring tools, etc.

Keyseaters, Nos. 1 and 2 Davis.  
Tappers, 1/2", 3/4" Rickert-Schafer.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**Taylor-Hall Welding Corporation, 99 Hope Ave., Worcester, Mass.**

#### BUTT AND SPOT WELDERS

Guaranteed to be in perfect condition.

Thomson 111 spot welder.	Thomson 170 spot welder.
Thomson No. 3 butt welder.	Thomson 40-A vert. butt welder.
Thomson 7AA auto. butt welder.	Thomson 20-A vert. butt welder.
Thomson 21 automatic butt welder.	Thomson 10-A vert. butt welder.

### FOR SALE BY

**Clinton Machinery Co., 128 S. Clinton St., Chicago, Ill.**

#### MILLING MACHINES.

No. 2 Brown & S. univ., comp. (2).	No. 1 Kempsmith univ., complete.
No. 2 Brown & Sharpe plain.	No. 00 Brown & Sharpe (hand).

#### SHAPERS.

20" G. & E. b. g., high duty (2).	15" Pratt & Whitney s. g.
24" Milwaukee b. g. (2).	14" Garvin s. g.
20" Cincinnati b. g.	9" Milwaukee s. g.
16" Ohio b. g., heavy duty.	7" Rhodes s. g.

#### MISCELLANEOUS.

Drill press, H. & W. 6-spindle.	Punch press, No. 3 back geared.
Grinder, 10"x36" Norton external.	Shear, 4" cap. 8' Ohl pwr. squaring,
Grinder, 18" Bealy disc, complete.	arranged for motor drive.
Punch press, P4 Ferracute.	Tapper, No. 2X Garvin automatic.
Large stock of lathes, punch presses, plain and universal grinders, screw machines and ball bearing presses.	

### FOR SALE BY

**Davis Machinery Exchange, 1-3-5 So. St. Clair St., Toledo, Ohio**

Band saw, 9" H. & R. metal cutting.	Keyseater, No. 2 Davis.
Bolt threader, 1 1/2" Landis, sq. head.	Lathe, 14"x8" Monarch, q. c. g., ck.
Bolt threaders, 1 1/2" and 2" National.	Lathe, 18"x8" Greaves-K., q. c. g., ck.
Brake, 96" Niagara hand, 18 gauge.	Lathe, 20"x10" Draper, l. c. g., chuck.
Brake, 96" Geo. A. Ohl hand power,	Lathe, 24"x10" Hendey, q. c. g., yoke.
geared, 3/16" capacity.	head.
Dowel machine, No. 2 Hawker.	Lathe, 26"x14" Walcott. qck. chg.
Drill 24" Superior, sl. hd., b. g., p. f.	gear, taper att.
Drill, 20" Barnes camel back, single	Mill, No. 3 Kempsmith plain.
spindle, all geared.	Mill, No. 3-B B. & S. plain, s. p. d.
Drill, 6-sp. Nat. Acme horizontal.	Mill, No. 2 Cincinnati Hi Power
Drill press, 2 1/2" Fosdick-Holloway	plain, s. p. d.
radial, tapping attachment.	Milling & drill. mch., No. 2 Knight.
Forming rolls, 42" Bertsch power,	Milling & drill. mch., No. 1 Knight.
slip end.	Press, No. 8 Rockford s. s. flywheel.
Grinder, 10"x20" Landis plain.	Press, No. 2 Toledo o. b. i. flywheel.
Grinder, 10"x36" Norton. plain	Saw table, No. 3 Crescent, tilting
Grinder, 12"x36" Modern plain, self-	table, revolving arbor.
contained countershaft.	Screw mche, 1 1/2" Gridley auto., 4-sp.,
Grinder, No. 1 Greenfield plain.	Model G.
Grinder, No. 1 LeBlond tool & cut.	Shaper, 16" Smith & Mills crank.
Grinder, No. 2 Bath universal.	Shaper, 24" Rockford crank, b. g.
Grinder, No. 1933" Bealy vert. disc.	Shaper, 28" Ohio crank, b. g.
Hack saw, 6"x6" Marvel power.	Slitter, gang, No. 513 Toledo, 36"x18
Hack saw, 6"x6" Racine power.	gauge.
Hammer, No. 11-B High Speed	Squaring shears, 11"D.H. Stoll 14 ga.
riveting, m. d.	Turret lathe, No. 3 Foster, g. f. h.
Hammer, No. 3-A High Speed riv.	Turret lathe, No. 7 Foster, power
Hammer, No. 3-A High Speed riv.	feed to turret and cross slide.
Jointer, 20" Oliver rd. safety hd.	Welder, Taylor spot, 50 k. w., 60 cy.,
Keyseater, No. 0 Mitts & Merrill.	440 v.
Keyseater, No. 0 Baker.	Woodworker, No. 103 Crescent univ.

# USED AND REBUILT MACHINERY

## FOR SALE BY

**Asher Machinery Co., 217 Centre St., New York, N. Y.**

Miller, No. 1 Kempsmith universal, cone, b. g., latest type, full equipment, tables 40"x84" "Kempsmith" cast in bed, like new, .....	\$900.
Presses, V. & O., all sizes, o. b. i., Nos. 0, 01, 1, 2, 2½ and 3.	
Presses, Adriance, Nos. 3 and 6, open back inclinable, Resp. #225. and 700.	
Shaper, 16" Newark, single pulley drive, with quick change geared feeds, like new .....	650.
Turret lathe, 2x24 Jones & Lamson, s. p. d., complete .....	500.
Turret lathe, 24" Gisholt, 6¼" hole, 2 step cone, complete .....	1000.

## FOR SALE BY

**E. L. Klauber Machinery Co., 320 South Third St., St. Louis, Mo.**

Bench drills, motor drive, 110 volt.	Lathe, 15x6 South Bend.
Drill, 29" Prentice, b. g. p. f., sl. hd.	Lathe, 16x6 Prentice p. c. g., s. b. g.
Drills, 3-spindle Dwight slate.	Miller, No. 1½ Knight.
Drill press, 34" Barnes, b. g., s. h. t. a.	Millers, hand, No. 9 Burke.
Gear cutter, 30" Whiton.	Pinion and wheel cutter, Stark.
Gear hobber, No. 0 Schuchardt & S.	Planer, 30"x30"x9" American.
Gear miller, automatic, 4" cap.	Presses, 30 ton Southwark, hydr.
Grinder, No. 3 Brown & S. cutter.	Punch press, No. 53 Swaine.
Grinders, electric bench, ½ h. p. 110 volt a. c.	Shaper, 14" Steptoe.
Lathe, bench, Stark, with collets.	Shaper, 16" Stockbridge, motor dr.
Lathes, 14x6 Davis tool room.	Shaper, 21" Cincinnati b. g.
Lathe, 13x6 South Bend.	Tapping machine, No. 6 St. Louis.

## FOR SALE BY

**Scott-Bansbach Machinery Co., 130 So. Clinton St., Chicago, Ill.**

Auto. screw mach., B. & S. No. 19, h. s. ....	\$ 500.
Auto. screw mach., B. & S. No. 00, with slotting .....	450.
Auto. screw mach., B. & S. No. 00, without slotting .....	400.
Auto. screw mach., B. & S. No. 0, without slotting .....	500.
Auto. screw mach., Cincinnati, 5-spindle, 1" .....	900.
Auto. screw mach., Cleveland, 6" Model A .....	150.
Bolt cutter, 2" D. & H., double head .....	300.
Boring mill, Morris horiz., motor drive, 1-15/16" spindle .....	1,000.
Boring mill, 34" Colburn vertical .....	350.
Centering machine, Whiton swivel .....	75.
Drill, 1-spindle L-G 14", high speed, ball bearing .....	175.
Drill, 4-spindle Avey, high speed, ball bearing .....	350.
Drill, 4-spindle Allen, high speed, ball bearing .....	350.
Drill, radial, 3" American sensitive .....	200.
Filling machine, Cochran-Bly, floor type .....	100.
Grinder, No. 1 Norton universal, cutter and tool, all att .....	500.
Grinder, No. 65 Heald, with fixtures, b. b. spindle .....	900.
Hammer, 50 lbs., No. 1 Standard drop .....	150.
Lathes, 14x8 Hendey, quick change, with taper .....	500.
Lathe, 18x12 Schumacher & Boye, quick change with chuck .....	500.
Lathe, 20x12 Rahn-Larmon, quick change with chuck .....	350.
Lathe, 20x10 Bradford, with chuck .....	400.
Miller, Whitney, Standard and U. S., hand .....	125.
Miller, No. 2 Knight vertical .....	700.
Miller, Ingersoll slab, 42"x36"x9" .....	1,750.
Oil separator, Curtis ½ bu. ....	100.
Planer, 32x32x8 Pond, 1 head .....	750.
Planer, 36x36x8 Cincinnati, 2 heads .....	1,250.
Press, No. 21 Holden o. b. i., 3700 lbs., 2½" stroke .....	350.
Press, No. 5 R. & K. o. b. i., 5500 lbs., 2" stroke .....	525.
Screw machine, F. & W. #4, complete .....	150.
Turret lathe, 24" Steinlee, 5¼" hole, side carriage .....	700.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**W. P. Little Co., - - - West 9th & Front Sts., Cleveland, O.**

#### LATHES.

14"x 6' Hendey q. c. g. | 16"x 6' Bradford q. c. g. & t. a.  
16"x 6' LeBlond q. c. g. | 18"x 8' Lodge & Shipley pat. hd.

#### PLANERS.

26"x26"x8' Gray, one head. | 32"x32"x14' Pond two rail heads.

#### MILLING MACHINES.

18" Cincinnati back geared, plain. | No. 6 Whitney hand.  
No. 13 Garvin plain. | No. 15 Becker universal.  
No. 2 Kempsmith plain. | 18" Cin. semi auto. face miller.

#### GRINDERS.

8" Heald rotary surface. | No. 75 Heald internal.  
No. 60 Heald cylinder, 36" table. | No. 6 Bryant chucking grinders.

#### DRILL PRESSES.

20" Barnes all geared. | No. 25 Foote-Burt, single pulley dr.  
22" Barnes b. g. power feed. | 3' arm Canedy-Otto post radial.

#### MISCELLANEOUS.

Keyseater, No. 0 Catlin. | Sand blast tumbling barrel, 32"x40".  
Wiring machine, No. 1 Magee. | Turret, No. 1 W. & S. auto. chuck.  
Rotary shear, No. S 24 Yoder. | Straightening roll, 42" with 7 rolls.  
150 other tools in stock. | Send us your inquiries.

### FOR SALE BY

**Randle Machinery Co., - - - 1733 Powers St., Cincinnati, Ohio**

Bending rolls, 5' Beloit.	Miller, No. 2 LeBlond plain.
Bending rolls, 8'x5/16" Bertsch.	Miller, No. 1 Cincinnati plain.
Bending rolls, 10'x1" Plate.	Miller, No. 25 Ohio plain.
Bend. rolls, 3'x48" Niagara slip form.	Miller, No. 3 B. & S. vertical.
Bolt cutters, 1 1/2", 2" Acme.	Miller, No. 2 Cincinnati uni.
Bolt cutters, 4" Acme, m. d.	Miller, No. 2 Kempsmith uni.
Boring mill, 36" Bullard, r. p.	Planer, 32x32x8' Gray, 1 head.
Boring mill, 60" Bement, 2 heads.	Planer, 36x36x16' Cin'tl., 2 heads
Boring mill, 96" Bickford.	Planer, 36x36x24' Gray, 2 hds. m. d.
Boring mill, 24" Cleveland.	Planer, 36x36x10' Powell, 2 heads.
Brake, No. 164 Chicago, hand power	Pipe machine, 6" Saunders, b. d.
Brake, 8'x10 ga. Robinson, m. d.	Pipe machine, 8" E.-C.-B., belt dr.
Brake, 12'x14 ga. Chicago, m. d.	Pipe machine, 12" Williams.
Grinder, No. 8 Badger disc, m. d.	Pipe mch., 12" Bignall & Keeler m.d.
Grinder, No. 2 B. & S. universal.	Radial drill, 3" Dreses, belt dr.
Grinder, No. 27 B. & S. internal.	Radial drill, 3" Mueller.
Grinder, No. 4 Gardner.	Radial, drill 4' Bickford.
Grinder, No. 3 Gardner, m. d.	Radial drill, 4' Dreses.
Grinder, No. 24 Gardner.	Radial drill, 4' American.
Grinder, No. 19 Besly, m. d.	Upright drill, 20" b. g.
Hack saw, 6x6, Racine & Peerless.	Upright drill, 24" American b. g.
Hack saw, 9x9 Acme.	Upright drill, 24" Superior b. g.
Keyseater, No. 1 Davis.	Shear, 10'x14 ga. Bertsch, b. d.
Keyseater, No. 3 Baker, m. d.	Shear, No. 51 Beloit, m. d.
Lathe, 14x6 LeBlond, rapid pro.	Shear, No. 462 Robinson, m. d.
Lathe, 16"x 8' American, q. c., t. a.	Shear, No. 196 Niagara, b. d.
Lathe, 16x8' Morris q. c. g. h.	Shear, No. 14 D. & K, m. d. rebuilt.
Lathe, 18x10' LeBlond, q. c.	Shaper, 14"-18" Steptoe plain.
Lathe, 20x10' American, g. b.	Shaper, 16" Cincinnati, b. g.
Lathe, 24x10 LeBlond, q. c.	Shaper, 20" Queen City, b. g.
Lathe, 24x10 L.-S., q. c.	Shaper, new 16" Queen City b. g.
Lathe, 25x18 LeBlond, q. c.	Shaper, 24" Barker, b. g.
Lathe, 27x12 LeBlond, q. c.	Shaper, new 28" Queen City
Lathe, 24x10 Rahn-Larmon, q. c.	Turret lathe, 24" Gisholt, b. d.
Lathe, 25x14 Sidney, q. c.	Screw machine, 4 1/2" s. a. Gridley.
Lathe, 45x20 Pond, l. c.	Wheel presses, 200 ton N.-B.-P.,
Lathe, 60" New Haven, l. c.	300 ton Thomas; 400 ton Caldwell;

Send us your inquiry for the machine you need, whether  
listed above or not.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**Economy Machinery Co., - 430 East Pearl St., Cincinnati, Ohio**

Heavy machinery for boiler shop or structural work.

#### AIR COMPRESSORS.

L. & D. 14x12, single c., b. d.  
Curtis 12x12, double c., b. d.  
Clayton 10x10, single c., b. d.  
Ingersoll 8x8, single c., b. d.

Herron and Bury, 6x5 $\frac{1}{2}$ , sgl. c., b. d.  
Gardner 6x6, single c., b. d.  
Gardner 6x6, single c., motor, a. c.

#### DRILLS.

Aurora 20", 3-spindle.  
Foote-Burt 4-spindle.

Bausch 14-spindle.

#### LATHES.

Walcott 26"x10', heavy duty.  
B. & O. 20x8' heavy turret, p. f.

Lodge & Shipley 22x7' heavy turret, p. f.

#### MILLERS.

LeBlond No. 3, h. d. p.

Cincinnati Nos. 4 and 5.

#### PUNCHES AND SHEARS.

Hilles & Jones No. 5 s. e. punch or shears, 56" throat.  
Cleveland horizontal punch.  
Lennox hvy. beveling rotary shears, 8' throat.

L. & A. No. 5 punch or shr., 12" thrt.  
L. & A. No. 3 punch or shr., 7" thrt., with angle and shear blades.  
Wais & Roos No. 3 punch, 8" throat shear blades.

#### MISCELLANEOUS.

Bolt cutters, Merriman to 2" and 3 $\frac{1}{2}$ ", (2).  
Hammer, steam, Miles 2,000 lbs.

Hammer, steam, Miles 800 lbs.  
Hack saws, Marvel, Racine and Atkins make, various sizes.

### FOR SALE BY

**McDonald Machinery Co., 1531-33 N. Broadway, St. Louis, Mo.**

Air compressors, Ingersoll-R. 5x7, motor drive, Bury 12x12.  
Arbor presses, Eames No. 6.  
Baling press, Champion sheet metal.  
Boring mills, 7 Bullard 42" low price.  
Chain hoists, Yale & Towne 1 $\frac{1}{2}$  & 2-ton.  
Crane, 5 ton, 3 motor, traveling.  
Demagnetizer, Walker.  
Drill, Baush 18-spindle.  
Drills, Baker, heavy duty (2).  
Drills, Leland-G 1-sp. h.s., b.b. floor.  
Drills, H. & W., Kokomo 1-spdl., Sipp 1 & 2 spdl., h. s., b. b.  
Drills, 20", 24", 26 & 28" b. g., & tap.  
Furnace, Holcroft 92 k.w. annealing.  
Grinder, Pratt & Whitney vert. sur.  
Grinder, Heald No. 60 cylinder.  
Grinders, modern internal; Blount 30", wet (3), Heald 8", mag. ck.  
Grinders, St. Louis No. 9.  
Hack saws, 4x4, 6x6 & 2 Racine Jrs, Atkins 4x4; Atkins 8x8 h. s.; Marvel No. 2.  
Hammer, Bement-Niles 1100 lb. st.  
Lathes, Schumacher & Boye, 42"x16" q. c. g.; Bridgeford 36"x12" q. c. g.; South Bend 24"x16"; South Bend 21"x12" q. c. g.; Davis 22"x10"; Whitcomb-Blaisdell 22"x8" q. c. g.; American 20"x9"; Mueller 18"x10", q. c. g.; Monarch 16"x8"; Porter-McLeod 16"x8"; all q. c. g.; 40 other assorted sizes.  
Milling machines, Kemp Smith No. 2; Ohio No. 20 plain. American No.

1 $\frac{1}{2}$  universal. Ohio 34; LeBlond No. 3-H plain; Brown & S. No. 3 pl.; Becker No. 4-B vertical; B. & S. No. 3 Bpl., s. p. d.; Kemp Smith No. 3 universal; No. 1 Kemp Smith plain.  
Pipe machine, Curtis 3", motor dr.; Merrill 4" belt drive; B. & K. 8".  
Planers, Gray 23"x25"x6", 1 head; Cincinnati 36"x36"x16" 2 heads; Pond, 36"x36"x12" table, 18' bed, 2 heads.  
Punches, W. & W. No. 17 punch.  
Punch presses, Swaine No. 29 o. b. i. Willard No. 4-A o. b. i., Bliss No. 19 o. b. i., (2), Federal No. 1 & 2 Pyrometer, Thwing elec., with rec. Rivet spinner, Grant.  
Rolls, Badger 50" Pyramid power rolls, 5" dia.  $\frac{1}{4}$ " cap.  
Screw machine, Gridley 1-spdl. 24" auto.; Cleveland 14" auto.; W. & S. No. 2 hand; P. & W. No. 2 $\frac{1}{2}$  hand; Foster No. 3 hand; Woods No. 2 tilted turret head; Bardons & O. No. 7; National-A. No. 52 auto., 4-sp., m. d. B. & S. No. 00 auto.  
Shapers, Cinti. 20", b. g.; Ohio 20"; Ohio 16"; American 16" b. g.; S.M. 16"; Steptoe 14" Barker 24" b. g. 24" Queen City 24" b. g., Barker 18" b. g.; Smith & Mills 21" b. g. Shears, 60" thrt. rotary slitting, (2). Welders, butt, Federal,  $\frac{1}{8}$ " rds.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**Lee Machinery Company, Inc.**

**6318 E. Jefferson Ave., - - - Detroit, Michigan**

Centering machine, Whiton.  
Grinder, 12" Heald rotary surface.  
Lathe, 18"x8" Whitcomb-Blaisdell, with chuck.  
Lathe, 16"x6" Lodge & Shipley, quick change.  
Tumbling barrel, 24"x36".

We are now carrying the Loshbough-Jordan line of punch presses in stock.

### FOR SALE BY

**Brown Machinery Co., - - - 2323 N. 9th St., St. Louis, Mo.**

Blowers, Nos. 3, 7 and 9 Sturtevant;  
Nos. 2 and 2 Root.  
Buffer, Hisey 3 hp., 3-ph., 220 v.  
Drills, 20" C-O and Champion; 22"  
and 25" Barnes; 24" Cincinnati.  
Drills, radial, 24" American 3" American, sensitive; 34" Fosdick.  
Drills, hor. radial, Nos. 2 & 3 Barnes.  
Grinders, emery, St. Louis & W.;  
large stock new at 50¢ disc.  
Grinders, disc, No. 6 Besly and 14  
Gardner.  
Grinders, drill, W. & M.; American.  
Grinders, plain, 10x36" Norton;  
8x36" B. & S.  
Grinders, universal, Nos. 3 Ohio  
and 12 B. & S.  
Hammer, helve, 40 lb. Bradley.  
Lathes, turret, 16" Gisholt, Fulton,  
Onar, Foster, J. & L.

Lathes, No. 5A Potter & Johnston.  
Lathes, 14" C-J; 16" Monarch; 18"  
Monarch; Lodge & Shipley; Fay  
& Scott; 20" L. & S.; 24" F. & S.;  
26" Whitcomb-B.; 36" American.  
Millers, No. 4 Hendey and No. 3B  
Owen, plain; No. 3 Cincinnati univ.  
Pipe machine, No. 2 B. & K.  
Planers, 30" Whitcomb; 60" Niles,  
42" Pond.  
Presses, No. 5 S. & P. grd.; L. & J.  
o. b. i., No. 6 Niagara, geared.  
Profilers, Putnam; Reed-Prentice.  
Punch and shears, No. 6 L. & A.  
12" thr.; No. 17 W.-W.  
Riveter, 4" Adt.  
Shapers, 14" Barker; 20" D. & E.  
Shears, rotary splitting, No. 134  
Marshalltown 4" thr.; 4" cap.;  
No. 13 Pettingell.

And many others. Write for list 130.

### FOR SALE BY

**Bennett Machinery Co., - - - 30 Church St., New York City**

Boring mill, 51" Bridgeport, 2 hds.  
Boring mill, 42" Bullard, 2 hds.  
Boring machine, 24" bar. Universal,  
t. & l. pulley through gear box,  
table 20"x42".  
Boring mche., 28" Fitch, knee type  
Drill, mult. 6-sp. Baush, in circle.  
Drills, 25" Snyder, tap; 20" Hoefler.  
Hack saw, 48" Goodell & Pratt.  
Lathe, 26"x18" McCabe, dbl. spdl.  
Lathe, 26"x14" McCabe, dbl. sp.  
Lathe, 28"x12" Boye & E., q.c., taper.  
Lathe, 26"x14" Rahn-Carpenter cone.  
Lathe, 24"x33"x14" Pond, belt.  
Lathe, 24"x24" Schumacher & Boye.  
Lathe, 21"x10" Sidney, new.  
Lathe, 20"x8" American g.h., q.c.g.  
Lathe, 18"x8" LeBlond, q.c.g., taper.  
Lathe, 19"x10" Sidney, new.  
Lathe, 18"x10" Flatther, q.c.g., cone.  
Lathe, 18"x8" Hollingsworth, q.c.g.  
Lathe, 16"x8" Bradford, q.c.g., taper.

Miller, No. 3 Kempsmith plain.  
Miller, No. 24 LeBlond, plain.  
Miller, No. 1-A Milwaukee mfg. grd.  
Miller, Model C Becker, vertical.  
Miller, No. 5B Becker.  
Pipe machine, 8" E. C. & B. belt.  
Pipe machine, 8" Jarecki, motor.  
Pipe mch., 8" Saunders, belt dr.  
Pipe machine, 6" Saunders 24-6".  
Pipe machine, 6" Oster belt.  
Pipe machine, 4" E. C. & B. belt.  
Pipe mche., 4" Curtis & Curtis, mtr.  
Pipe machine, 3" Jarecki No. 7B.  
Planer, 30" x36"x16" Cincinnati, 2hds.  
Punch, 24" L. & A. No. 4 s. e.  
Radial 34" Mueller, gear box tap.  
Saw, cold 22" blade Gleim, 6" cap.  
Shaper, 24" Hollingsworth cone.  
Shaper, 21" American, belt drive.  
Shaper, 20" Gould & Eberhardt \$375.  
Shaper, 16" Stockbridge, belt.

Send for Complete Stock List.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**Hetchkies, Blue & Co., 249 Railway Exchange, Chicago, Ill.**

Punch & shear, Hilles & Jones No. 3, s. e. type, 36" throat, arch. jaws, punch 1½x1, shear 1" plate, bar shear 2-½" round, 7x1½ flat and 5x5x½ angles, G. E. 10 h. p., 220 v., 3 ph., 60 cy. motor. Fully equipped shears, strippers, blocks, etc., very good condition.  
Hammer, Bradley 60 lb. cushion helve, new rubber bumpers & extra set.

### FOR SALE BY

**M. A. Wertman Machinery Co., 427 Penton Bldg., Cleveland, Ohio**

Bolt cutter, 24" Landis with dies.  
Boring mill, 52" Niles 2 swivel heads, single pulley drive.  
Boring mill, 52" Gisholt 2 swivel heads, single pulley drive.  
Boring mill, 42" Bullard, 2 swivel heads, self contained c. s.  
Drill, 3½" Western radial, single pulley drive.  
Drill, 4" Morris radial, single pulley drive.  
Drill, 5" American radial, motor drive.  
Milling machine, Milwaukee No. 1½A plain, single pulley drive.  
Milling machine, Brown & Sharpe No. 0Y plain.  
Milling machine, Rockford No. 3 plain, single pulley drive.  
Miller keyseat, Burr No. 5, 60" table, routing attachment, perfect.  
Planer, Cleveland openside 36"x36"x10", 3 heads.  
Press, Bliss No. 3½B toggle, draw and lift-out 10½".  
Press, Toledo No. 165 toggle, draw and lift-out 8½".  
Press, Toledo No. 3 geared, o. b. i. 4½" stroke.  
Polishing lathes, Frankfort double end, b. b., 1½" spindles, (10).  
Shaper, 24" Cincinnati, very good.  
Shaper, 15" Hendey A No. 1 condition.  
Saw, Peerless 6"x6" hi speed hack saw.  
Saw, Racine 6"x6" hi speed hack saw.  
Turret lathes, Gisholt 21", 3½" hole in spindle (5).  
Turret lathe, Libby 18" heavy turret lathe, single pulley drive.  
Turret lathes, Warner & Swasey No. 6 g. f. h. turret lathe (2).  
Turret lathe, Warner & Swasey No. 4 universal turret lathe, cone type.

### FOR SALE BY

**The O'Brien Machinery Co., 1113 N. Third St., Philadelphia, Pa.**

Boring mill, No. 1½ Beaman Smith horizontal, floor type, 3½" bar.  
Boring mill, 48" Bement car wheel.  
Drill, 32" Aurora, motor driven.  
Drill, radial 2½" Morris s. p. dr.  
Gear cutter 30" Whiton, belt.  
Grinder, 12"x36" Cincinnati univ.  
Grinder, 14"x36" Norton plain, belt.  
Grinder, No. 2 Norton universal.  
Hammer, 2000 lbs. Chambersburg, double frame, steam forging.  
Hammer, 1100 lb. N. B. P., sgl. fr.  
Hammer, 600 lb. Bement sgl. frame.  
Hammer, 100 lb. Beaudry belt.  
Lathe, 20"x30" Harrington.  
Lathe, 48"x12" Harrington, belt.  
Miller, Newton duplex, planer type, table 21"x12".  
Miller, No. 4 LeBlond h. d., plain.  
Milling mche., No. 3 Garvin duplex.  
Pipe machines, 2", 4", 6", 8" & 12" Oster, Cox, Williams, Eaton-Cole & Burnham and Jarecki makes, belt or motor driven, comp. stock.  
Pipe machine, 2" Landis, belt.  
Pipe machines, Oster portable, gas. drive, all sizes.  
Planer, 36"x36"x24" Bement, 4 hds.  
Planer, 36"x36"x12" Cincinnati, 2 hds.  
Planer, 54"x54"x30" Sellers, 4 heads.  
Press, No. 73½ Bliss trimming press.  
Press, No. 37 Niagara, 1100 lb. fly-wheel, solid back.  
Press, hydraulic wheel, 100 ton, 33" between bars.  
Press, hydraulic flanging, 150 ton Chambersburg, 54" throat.  
Punch, No. 2 Hilles & Jones, 20" thrt., motor driven, cap. 1" in 1".  
Rolls, 6" Beloit, ½" cap., belt.  
Rolls, Buffalo angle bdg., cap. 5x½.  
Saw, 16" Higeley cold, cap. 4".  
Saw, 30" Espen-Lucas, cap. 8".  
Shaper, 18" Cincinnati, one traveling head, 2 tables.  
Shapers, 20" Stockbridge, with speed box, (2).  
Shear, Buffalo bar, cap. 2" round.

## USED AND REBUILT MACHINERY

### FOR SALE BY

**The United Metal Products Company,**

**Canton, Ohio.**

#### BOILERS

Two American Radiator boilers, type T-79"-11 sections, good condition, low price and immediate delivery.

### FOR SALE BY

**Nelson Machinery Co.,**

**123 N. Pearl St., Green Bay, Wis.**

Drill press, 4-spindle Henry & Wright, ball bearing.

Furnace, electric, Booth-Hall 1½ ton, 600 k. v. a., new.

Miller, No. 3 Cinti univ., cone dr.

Pipe machine, No. 14 Jarecki 2½ to 8", q. c., adj. dies.

Pipe straightener, No. 2 Kane & Roach, new.

Riveters, new "Wonder" portable gap, (2), each.....\$200.

Shaper, No. 18li G. & E. crank, cone drive.

Turret, 1½"x18" Pratt & Whitney.

### FOR SALE BY

**A. M. Stoehr Machinery Co.,**

**803 W. Madison St., Chicago, Ill.**

Bolt cutter, 3-spdl. Acme, 1" cap.

Boring mill, Beaman & Smith horizontal, 5" bar; 60" Bullard motor drive, 220 v., 60 cy., 3 ph.

Grinders, No. 7 Gardner b. b. d. e., univ. tbl; Nos. 26-18" Besly dbl. spdl. disc, complete; Detroit centerless, arranged for belt drive.

Miller, 40" Ohio, auto. rotary.

Planers, 56x56x12' Gray, 2 heads; 60x60x18' Gray, 2 heads; 36x36x12' Strick.

Presses & pumps, hydraulic, 300 ton

Pertin, 2-15 ton, comp. with pumps, Presses, Bliss, arch., 2½" str., 28" bet. column; R. & K. dbl. ck., 36" bet. column, roller feed, 2½" stroke.

Punch and shears, No. 8 Whiting, 36" thrt., arct. jaw, motor drive.

Riveters, 3-A, 4-A & 5-A, high spd. Rolls, 10" Scully, ½" drop end.

Shears, Scully rotary splitting, 4" capacity; Lennox bevel ½" cap.

Shears, Kling splitting, ½" cap.

Electric, positive pressure, portable sprays.

Will spray Duco, paint, lacquer, shellac, enamel, whitewash, etc. A complete unit, no other expense, attach to light socket and start. Fully guaranteed, price \$37.50. Circulars on request.

### FOR SALE BY

**B. L. Saltzman,**

**524 W. Van Buren St., Chicago, Ill.**

#### PUNCH PRESSES.

No. 3 Niagara, o. b. i.

No. 2 American Can.

Bench punch presses all sizes.

No. 2 Walsh.

No. 10 Torris and Wold.

#### LATHES.

Flather 18x8, q. c. g.

Flather 9x5.

Rockford 14x6, q. c. g., tool room.

Rockford 11x5.

Sidney 14x6, q. c. g.

South Bend 15x6.

#### SHAPERS.

20" Hendey, friction drive.

12" Springfield crank.

#### DRILL PRESSES.

Avey 3-spindle, high speed, b. b.

#### AIR COMPRESSORS.

Ingersoll Rand 12x12.

Ingersoll Rand 10x12.

Blaisdell 6x8 horizontal.

#### DRILLS.

Electric, ½ and ¾ capacity, full ball bearing.

#### MOTORS.

#### New Prices.

½ h. p., single phase, new, G. E. \$26.

1 h. p., single phase, new, G. E. 42.

2 h. p., single phase, new, G. E. 65.

1 h. p., 3 phase, new, G. E. \$35.

3 h. p., 3 phase, new, G. E. 49.

5 h. p., 3 phase, new, G. E. 60.



## USED AND REBUILT MACHINERY

### FOR SALE BY

**Syracuse Supply Company, 314 W. Fayette St., Syracuse, N. Y.**

Guaranteed NEW MACHINES in original crates at prices below list:

Pipe machine, No. 70 Forbes.

Straightener, No. 24 Corey.

Shaper, 20" Whipp, back geared.

Exceptional values in USED TOOLS:

Band saw, 36" Fox, tilting table.

Planer, 30"x30"x16' L. W. Pond.

Bending machine, Champion.

Radial, 5' Pond.

Bolt threader, Acme 2-spindle, with one head, 1/2" capacity.

Radials, 5' Dreses, single pulley drive, gear box, (2).

Boring mills, Lucas No. 21, (2).

Rip saw, No. 24 Powers, self feed, power.

Drill press, 22" Prentice, rebuilt.

Screw machine, No. 24 Garvin.

Grinder, 24" Safety Emery Wheel Co., snag grinder.

Thread miller, No. 12 Lees Bradner.

Grinder, Blount 14x14 wet tool, m. d.

Tilted turret, No. 6 Wood.

Lathe, 20"x12" Reed.

Turret lathes, No. 4 Foster, (2).

Lathe, 12"x4" Hendey, q. c. g.

Turret lathe, No. 3 Cincinnati Acme.

Lathe, 8x60 Fitchburg lo-swing.

Turret lathe, 24x26 Pratt & Whitney.

Miller, No. 5 Becker vertical.

Turret lathe, 21" Gisholt.

Millers, Wisconsin hand, (3).

Turret lathe, 24" Steinle.

### FOR SALE BY

**Wm. C. Johnson & Sons Machinery Co.,**

**1211-1223 N. 12th St.,**

**St. Louis, Mo.**

#### HAMMERS.

No. 5-B 500-lb. Niles motor-driven.

60 lb. Bradley helve.

2000 lb. Niles steam.

#### LATHES.

60"x12" New Haven turning lathe.

18"x 8' LeBlond, q. c. g.

26"x12" Fifeild, heavy pattern.

15"x10' Cisco, q. c. g.

24"x10' LeBlond, p. c. g.

14"x 6' Flather, q. c. g.

20"x16" Monarch gap lathe.

Fitchburg Lo-Swing, 12' bed.

#### PLANERS AND SHAPERS.

24"x24"x 6' Powell.

16" Whipp shaper.

30"x30"x 8' Cincinnati.

20" Whipp shaper.

36"x36"x18" Hamilton, motor drive.

20" Smith & Mills, shaper, b. g.

42"x42"x12" Powell, 3 heads.

24" Flather shaper, b. g.

36"x36"x12" Cleveland openside.

24" Gould & Eberhardt shaper, b. g.

48"x48"x16" Niles, box table.

#### MILLERS.

Hendey, Lincoln type.

No. 14 Rockford plain.

No. 7 Becker, Lincoln type.

36"x30"x8" Ingersoll slab.

No. 14 Brown & Sharpe plain.

#### DRILLING MACHINES.

3' Dreses radial.

22" W. F. & John Barnes.

4' Cincinnati Bickford.

20" Champion.

32" Mechanics drill.

#### GRINDERS.

14"x36" Landis universal.

No. 30 Gardner disc, 30" capacity.

8" Heald rotary, magnetic chuck.

No. 6 Bealy double disc.

#### BORING MILLS.

No. 1 P. & H. horizontal drill.

51" Baush, 2 heads, heavy.

42" Niles, 2 heads.

#### SCREW AND TURRET MACHINES.

3"x24" J. & L., geared head.

3"x36" J. & L., geared head.

No. 6 Warner & Swasey cone head.

2" Warner & Swasey hollow hex.

#### TRAVELING CRANES.

15 Hand, cranes 14' to 42' span.

3 yard jib cranes with guy ropes.

#### MISCELLANEOUS.

Forging mch., 24" Acme, steel bed.

Sand sling, Beardsley & Piper.

Furnaces, cyanide hardening.

No. 18, type P.

Presses, Louriehydraulic, 20 & 30 ton

Shear, Lennox, rotary bevel.

Punch, horizontal, 1" in 1".

Slotter, 13" Niles.

Punch & shear, Cleveland 42" throat.

Swager, No. 1 Dayton.

Rotary planer, 44" and 48".

## USED AND REBUILT MACHINERY

### FOR SALE BY

**Reliance Machinery Sales Company**

**1405 Brighton Road,**

**N. S. Pittsburgh, Pa.**

Automatics, Nos. 52 & 53 Acme.  
Bolt cutter,  $\frac{1}{2}$ " Acme, class "A," 2-sp.  
Bolt cutter,  $\frac{1}{2}$ " Geometric, m. d.  
Bolt cutter,  $\frac{1}{2}$ " Acme, double head.  
Bolt cutter,  $\frac{1}{2}$ " Acme, single head.  
Boring mill, D. & H.,  $\frac{3}{4}$ " bar.  
Boring mill, Niles horiz.,  $\frac{1}{2}$ " bar.  
Boring mill, 42" Bullard, 2 heads.  
Brake, 8" D. & K., 14 gauge.  
Buffers, 10 h. p., 220-3-60-3600.  
Bulldozer, No. 4 Williams & White.  
Broach, No. 3 LaPointe.  
Cutting-off machine, 6" Hurlburt-R.  
Drill, 25" Weigel, sliding head.  
Drill, 34" Barnes, sliding head, t. a.  
Drill, P. & W. multiple, 12-1" spdl.  
Drill, No. 2 Detroit, 5-spindle.  
Gear cutter, No. 1 Hilton.  
Gear cutter, 40"x9" G. & E., s. p. d.  
Gear cutter, No. 13 Brown & Sharpe.  
Grinder, 5 h. p. U. S., 220-3-60.  
Grinder, Oliver drill,  $\frac{1}{2}$ " cap., m. d.  
Grinders, Nos. 11 & 12 B. & S. pl.  
Grinder, 12"x24" Modern plain.  
Grinder, No. 3 Wilmarth & M. sur.  
Grinder, No. 3 Brown & S. univ.  
Grinder, No. 1 Norton univ. cutter.  
Grinder, No. 2 Gardner disc. m. d.  
Grinder, No. 16 Besly, double disc.  
Grinder, No. 5 Springfield planer.  
Hammer, No. 1AA HighSpeed, m.d.  
Hammer, 300 lb. Bradley upright.  
Keyseater, No. 2 Baker, cap. 2".  
Keyseater, 48" Morton, cap. 2".  
Lathes No. 3 Hardinge Precision (3.)  
Lathe, 12"x 6" Seneca Falls, q. c. g.  
Lathe, 12"x10" Davis tool rm., q.c.g.  
Lathe, 14"—25" Fay & Scott gap.  
Lathe 16"x6" Hendey, g. h., m.d.  
Lathe, 18"x8" American, late type.

Lathe, 18"x10" W.-B., g. h. s. p. d.  
Lathe, 25"x10" LeBlond, q. c. g.  
Lathe, 27"x18" Reed, bargain.  
Lathe, 30"x12" Boye & Emmes, q.c.g.  
Lathe, No. 2A W. & S. universal.  
Lathe, 18" Libby turret, s. p. d.  
Lathe, 21" Gisholt turret, (2).  
Miller, No. 1 Knight, 6"x18".  
Miller, No. 2 Cincinnati plain.  
Miller, No. 4 Hendey plain, s. p. d.  
Miller, No. 5B Becker vertical.  
Pipe mche., Jarecki 14" to 6", m. d.  
Pipe mche., E., C. & B., 24" to 8".  
Pipe machine, Merrill, 24" to 12".  
Press, No. 67 Niagara screw press.  
Press, No. 3 Adriance o.b.i., 34" str.  
Press, Ferracut DD2, o. b. i., cam.  
Press, No. 54 Toledo trimming, m.d.  
Planer, 34"x24"x8" Powell, 1 head.  
Planer, 30"x30"x8" Powell, 1 head.  
Planer, 33"x33"x12" Cincinnati, 2 hds.  
Planer, 48"x38"x12" Gray, 3 heads.  
Planer, 48"x48"x14" Betts, 3 heads.  
Punch, Wickes, 48" thrt., cap. 14"x1".  
Radial drill, 3" Amer., h. s., sens.  
Radial drill, 4" Mueller plain, (2).  
Radial drill, 4" Bickford, gear box.  
Saw, 14" American metal swing m.d.  
Screw mche., No. 4 W. & S., b.g.f.h.  
Seamers, Bliss, Leffler & Max Ams.  
Separator, Dings magnetic, b. d.  
Shaper, 20" Smith & Mills b. g. cr.  
Shaper, 20" Milwaukee, b. g. crank.  
Shaper, 20" Averbek, g.b., s.p.d.  
Shaper, 24" Averbek, g.b., s.p.d.  
Shaper, 24" Potter-Johnson crk.m.d.  
Shaper, 30" Morton draw cut.  
Shear, 72"x14 gauge cap., Niagara.  
Slotter, 15—18" Dill, m. d.  
Tapper,  $\frac{1}{2}$ " Webster & Perks, 1-spdl.

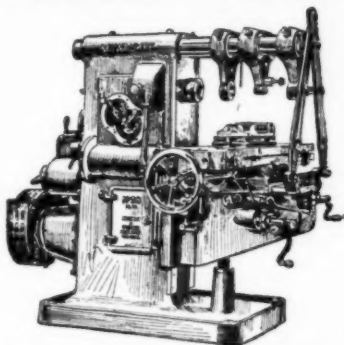
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**CORPORATION**

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**(See Page 3 for K & T New Milling Equipment)**

# Bargains In New and Used Tools

Used No. 2 Brown & Sharpe Universal Miller

Used 3-B Kearney & Trecker Plain Miller, m. d., a. c.

Used 36" Bullard Boring Mill, Side Head

## MILLING MACHINES

Used No. 1 Kempsmith univ., all equipment including vert. attach.  
Used No. 2 B. & S. univ., cone. h.  
Used No. 2 Kempsmith universal.  
Used No. 2 Cinti univ., cone head.

Used No. 2 Cinti plain, cone head.  
Used No. 2B B. & S. plain, g. h.  
Used No. 3 Brown & Sharpe, plain.  
Used No. 3 Cincinnati pl., vert. att.  
Used No. 28 Ohio plain.

## LATHES

New 11"x5' Seneca Falls.  
Used 14"x6' Bradford taper, q. c.  
Used 14"x6' Monarch, q. c.  
Used 14"x8' Hendey, q. c.  
Used 15"x6' Sunstrand semi q. c.  
New 16"x7' Chard Mfg. type.  
Used 16"x8' Advance q. c., chucks.

Used 18"x8' Lodge & Shipley, q. c.  
Used 18"x10' Monarch, q. c.  
Used 18"x10' American, q. c.  
Used 20"x10' Greaves-Klusman.  
New 20"x8' Boye & Emmes, q. c.  
Used 24"x12' Boye & Emmes, q. c.  
Used 24"x16' Boye & Emmes, pl. c.

## SENSITIVE DRILLING MACHINES

New Allen Drills, 1, 2, 3 & 4 spdls.  
Used 1-spindle Allen Drill.  
Used 2 and 3 spindle Allen.

Used 4-spindle Allen Drills.  
Used 2-spindle Avey, ball bearing.

## RADIAL DRILLS

Used 5' Dreses.

Used Hammond type B sensitive.

## UPRIGHT DRILLS

Used 20" Hoefer wheel and lever fd.  
Used No. 2, 20" Colburn mfg. type.  
New 23" Snyder, tapping att.  
Used 24" Mechanics, sliding head.

Used 24" Barnes camel back.  
Used 25" Barnes, stationary head.  
Used 26" Barnes, sliding head.  
New 30" Snyder, sliding head.

## MULTIPLE DRILLS

New Baush No. 4 hd. 22x52 41 spdls.

New Baush No. 4 hd. 30x46 22 spdls.

## SHAPERS AND PLANERS

Used 14" and 16" Smith & Mills.  
Used 16" Kelly shaper.  
Used 20" G. & E. back geared.  
Used 24" Cincinnati, b. g.

Used 24" Rockford power down feed.  
Used 24" Gould & Eberhardt, b. g.  
Used 26"x26"x8' Flather, 1 head.  
New 36"x36"x12' W. & P., 2-heads.

## GRINDERS

New Morse No. 3 plain, 8"x40".  
Used No. 10 B. & S. plain, 6"x20".  
Used Gisholt tool grinder.  
New Churchill internal.

New No. 9 Cincinnati internal.  
Used Bridgeport No. 110 knife grinder, belt or motor drive.

## TURRET LATHES AND SCREW MACHINES

Used No. 3A W. & S. universal.  
Used No. 3 Superior.

New No. 4 Wood tilted turret

## MISCELLANEOUS

New 4" Standard pipe machine.  
Used 4", 8" and 12" Bignall & Keeler pipe machines.

New No. 3-B LaPointe broach.  
New Nos. 1, 2, 3, 4 and 5 Federal presses o. b. i.

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**B-2161**—Set Brown & S, 6" Universal Index Centers... **\$100.00**

**B-2170**—No. 1 Knight Drilling and Milling Machine, with vise, drill guide and circular milling attachment ..... **\$200.00**

**B-2458**—13"x6" Willard Loose Change Gear Engine Lathe, with hollow spindle 1 1/4" bore, with double friction countershaft, 3-step cone, for 2 1/2" belt, single belt feed to four quick change gears on feed rod, compound rest, double back gear, and small face plate, large face plate, set of change grs., without steady rest **\$125.00**  
Add for Steady Rest, if wanted \$10.00

**B-2236**—15"x8" American Quick Change Gear Engine Lathe, with 5-step cone for 2" belt, single back gear, double friction countershaft, with LeBlond belt shifter fitted, compound rest, steady rest, large and small face plates, and chk. plate 6 1/2" O. D. **\$225.00**

**B-2134**—16"x6" American Geared Head Quick Change Gear Engine Lathe, (actual swing 18"), plain rest, small face plate, parts missing ..... **AS IS \$45.00**

**B-2234**—No. 3 Brown & Sharpe Surface Grinding Machine, Planer Type, taking 23" between housings, with table 14 1/4" wide by 68 1/2" long, having three T-slots lengthwise, will grind work 11 1/2" high by 60" long, and takes wheels up to 12" diameter by 3/4" face; machine equipped with shelf bracket for motor dr., can be belt dr. **\$500.00**  
With 2 H. P. 220 volt, D. C. motor and rheostat. **ADD \$75.00**

**B-2232**—No. 3 Blount Grinding Machine with single pulley countershaft and plain wheel guards..... **\$45.00**

**B-2263**—Motor Driven Spindle 3 1/2 H. P. Polishing Lathe, with all equipment and parts belonging to machine..... **\$100.00**

**B-2104**—Pond Planer, 42" widened to 48", with 12' table, with one rail head, one side hd., belt driven with countershaft. **\$650.00**

**B-2103**—2 1/4"x24" J. & L. Bar Machine, serial 10949, belt driven, with countershaft, die head and other equipment..... **\$275.00**

**B-2153**—12" Betta Crank Slotting Machine, back geared, cone drive, 4-step cone, 4" belt, with double friction countershaft, power rotary table 36" diameter with T-slots; machine takes 24" from top of tbl. up to bottom of tool block in highest position, 15" from top of table up to bottom of ram ways, 26" reach from top of tool back to col.; mche. has pwr. fds. in all directions, cond. good **\$550.00**

**B-2268**—No. 652 Gould & Eberhardt Gear Cutting Machine with tight and loose pulley countershaft, single pulley drive for 4" belt, with arbor support, with chart, with cutter indicator, change gears, and eleven work arbors rated pitch capacity 4 diametral pitch, diameter cap. 33", face, cap. 9", wt. 3200 lb., for spur grs. only, **\$400.00**

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# **A Reliable Source of Supply for Lathes and Machine Tools**

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**Used "2-in-1" Double Spindle Lathes,  
Rebuilt—Guaranteed.**

## ***Exceptional Values in Big Tools—***

8-10' Betts Boring Mill.  
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72"x24' Table Planer.  
50"x24' Bed Lathe.  
50" and 60" Throat Punches.  
10' Bending Rolls.

## ***A few selections from an immense stock of Used Tools—***

No. 3 Hendey Plain Miller.  
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42" Bullard Boring Mill.  
4-5/8" Bar Horizontal Boring Mill.  
26" Niles Planer.  
48" Pond Planer.  
18"x10' High Duty Lathe.  
4' Arm Carlton Radial Drill  
3' Arm Carlton Speedy Sensitive.  
Universal Grinder, 12" swing, 32" Cts.  
12" & 24" G. & E. Gear Cutters.  
15" Putnam Slotter.

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6' American Triple Geared Pl. Radial, gear box drive.  
 5' & 4' Dreeses Hi-Duty. Pl., g. b. d.  
 5' American Tool Wks. t. g. Pl., g. b. d.  
 4' Amer. tr. pur. Pl., m. d. thru g. b.  
 3' & 2½' Carlton b. b. Sens., tapping.  
 3½' & 3' Mueller Plain Radial, g. b. d.  
 3' Cincinnati-Bickford Plain Radial, gear box drive.  
 4' Hammond b. b. Sens. Radial, t. a.  
 4' & 3' American b. b. Sens., t. att.  
 2½' Plain Gang Radial, g. b. d.  
 Nos. 1 & 3 W. F. & J. Barnes Hor. Rad.  
 No. 1 S. S. Natco, Garvin Horizontal Duplex Drill.  
 28" & 26" W. F. & J. Barnes Up., latest.  
 26" W. F. & J. Barnes Up. t. a.  
 25" Snyder Upright Drill.  
 25" & 22" Kokomo High Speed Up.  
 24" Aurora Upright, 22" same, tap att.  
 24" Sibley Upright Drill.  
 24" Cincinnati-Bickford Upright.

22" W. F. & J. Barnes Upright, t. a.  
 21" Cinti.-Bickford Upright.  
 20" W. F. & John Barnes 4-spdl. Gang.  
 3-spindle W. F. & J. Barnes Gang 26".  
 6-spindle 20" Hoefer Gang.  
 Detroit 5-spindle Horizontal Dr. Press.  
 Leland-Gifford 4-sp., b. b., No. 2 M. T.  
 Leland Gifford single spindle, b. b., No. 1 Morse Taper.  
 Demco single spindle, b. b. No. 2 M. T.  
 Avey 2-sp. b. b., No. 2 Morse taper.  
 Leland-Gifford 6-spdl. ball bearing.  
 No. 310 Baker Bros. heavy duty.  
 No. 25 Foote-Burt heavy duty.  
 No. 12 Pratt & Whitney Multiple, equip. ped with 8 spindles.  
 D. No. 2 Colburn Heavy Duty.  
 No. 0 Fox Multiple, 6-spindles.  
 No. 1 Fox Mult., equipped with 10 spdl.  
 No. 3 Fox Mult., equipped 12 spindles.  
 No. 11 P. & W. Mult., equip. 6-spdl.  
 No. 37 Natco Mult., equip. 20 spind/e.

## ENGINE AND TURRET LATHES

42"x30' Amer. g. h. Lathe, q. c., late.  
 36"x30' Amer. tr. grd., q. c., late type.  
 36"x18' Amer. tr. grd., q. c., late type.  
 36"x22' Springfield tr. grd., stan. ch.  
 36"x16' L. & S. sel. g. h., q. c.  
 30"x16' N-B-P stand, change, late types.  
 30"x12' Lodge & Shipley, q. c., late.  
 26"x18' Schumacher & B. q. c. Lathe.  
 28"x14' Schumacher & B. q. c. Lathe.  
 27"x12' LeBlond q. c., late type.  
 24"x12' LeBlond q. c. Lathe.  
 30"x14' Lodge & Shipley, q. c.  
 24"x14' L. & S. q. c., tap. att.  
 24"x12' L. & S. q. c. Lathe.  
 24"x10' G. & K. q. c.  
 24"x10' Bove & Emmes q. c. Lathe.  
 22"x12' Whitcomb-Blaisdell semi-q. chg.  
 21"x10' LeBlond grd. hd., q. c.  
 21"x10' LeBlond q. c. Lathe.  
 20"x10' American q. c.  
 20"x10' Whitcomb-B. grd. hd., q. c.  
 20"x10' Chard q. c. taper attach.  
 20"x10' American grd. hd., q. c.  
 19"x10' LeBlond q. c. Lathe.  
 18"x10' Greaves & Klusman q. c., t. a.  
 18"x8' American q. c., t. a., late type.  
 18"x8' LeBlond q. c. Lathe.  
 18"x8' Mueller, q. c. Lathe.

18"x8' L. & S. sel. grd. hd., q. c.  
 16"x10' Hendey, yoke hd., q. c., t. a.  
 16"x6' & 16"x8' Monarch g. h., q. c.  
 16"x8' and 16"x6' Hendey yoke head q. c. Lathe, taper att., late type.  
 16"x 6' Monarch quick change Lathe.  
 14"x 6' L. & S. sel. grd. hd., q. c., late type.  
 14"x6' & 14"x8' Am., h. d., g. h., q. c.  
 14"x6' Reed-Prentice, grd. hd., q. c.  
 14"x6' Hendey tie bar., q. c. t. a.  
 No. 9 LeBlond Multi-Cut Lathe.  
 8"x108" Lo-Swing with 2 carriages.  
 No. 1-B Foster Univ. Hol. Hex. Turret bar equipment.  
 24" & 21" Gisholt turret, t. a., late.  
 18" Libby type A turret, 3½" sp. hole.  
 3"x36" J. & L. dbl. spdl. Turret.  
 3¼"x40" Greenlee Tur., bar equip.  
 3"x36" J. & L. Turret, chuck equip.  
 2¼"x24" Jones & Lam., Tur bar equip.  
 2½"x26" Pratt & Whitney, grd. hd. Tur. chucking equipment.  
 Nos. 2, 4, 6 Warner & S. Turret.  
 Nos. 2, 4, 6 Foster Turret.  
 No. 4 B. & S. Wire feed Screw Mche.  
 No. 4 Bardons & O. Turret lathes.  
 No. 4 Millholland Turret, g. h., m. d.  
 1" Biggs Hand Screw Machine.

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## GEAR MACHINERY AND GRINDERS

- \* No. 5-A Lees-B. Gear Hobber.
- \* No. 12 Barber-Colman Gear Hobber.
- \* 18-H Gould & E., Hi-Duty Gr. Hob.
- \* 16" Cincinnati Gear Hobber
- \* No. 6 Fellows Gear Shapers.
- 20" Ingle Gear Tooth Rounding Mach.
- 6", 11" & 18" Gleason Bevel Gr. Gener's.
- No. 6-60" B. & S. Auto. Sp. Gr. Cut.
- No. 5-48" B. & S. Auto Spur Gr. Cut.
- No. 4-48" B. & S. Auto. Spur Gear Cut.
- No. 3-26" B. & S. Auto. Spur Gear Cut.
- No. 3-36" Cin. Auto Spur Gear Cut.
- No. 22-12" Heald Rotary Surface.
- 24" Cincinnati Auto. Spur Gear Cutter.
- 84" Diamond Face Grinder, arr. for m.d.
- No. 3 W. & M. Auto. Surf. mag. chk.
- No. 2 Brown & S. Auto. Surf. mag. chk.
- No. 2 LaSalle Auto. Surf. mag. chuck.
- 14" P. & W. Vert. Surf. Grind., m. c.
- 8" Heald Grinder & Surf., style 200.

- Nos. 70 & 75 Heald Internal Grinders.
- No. 60 Heald Cyl., late type, complete.
- Capital Internal, collet attachment.
- No. 120 Gardner Double Disc.
- No. 6-26" Gardner b. b. Disc.
- No. 10-18" Besly Disc Grinder.
- No. 18-30" Gardner Pat. Mkrs. Disc.
- Walker single stroke Surface Grinder,
- 10' diam., magnetic chuck.
- No. 8-40" Gardner Disc with Press.
- No. 120 Gardner Combination Disc.
- Nos. 3 & 4 B. & S. Univ., late.
- Yankee Twist Drill Grinder-NEW.
- No. 1-4" x 20" Morse Plain Grinder.
- 6" x 32" & 10" x 36" Norton Plain, late.
- 10" x 36" & 10" x 52" Landis Plain self-
- cont. grinders, late.
- 8" x 30" Modern Plain, self-contained.
- No. 2-12" x 36" Cincinnati Plain.
- No. 1 LeBlond Univ. Tool & Cutter.

## SHAPERS AND PLANERS

- \* 24" Steptoe triple grd. Shaper.
- \* 24" Ohio hvy. duty, b. g. Crank.
- 20" Gould & Eberhardt b. g. Crank.
- 20" Cincinnati heavy duty b. g. Crank.
- 16" Hamilton heavy duty, b. g., Crank.
- 16" Smith & Mills h. d., b. g., Crank.
- 16" Steptoe heavy duty b. g. Crank.

- 16" Cincinnati hvy. duty b. g. Crank.
- 15" Hendy fric. grd. Shaper.
- 14" Davis plain Crank Shaper.
- 38" x 38" x 18" Niles Planer, 2 hds.
- 36" x 36" x 10" N-B-P Pl., 2 hds., arr. m.d.
- 24" x 24" x 8" W. & P., 1 head.

## MILLING MACHINES

- No. 4 B. & S. Univ., c. p., complete.
- No. 4 Cincinnati Plain, cone pulley.
- No. 3 Hendy Univ., c. p., complete.
- No. 3-A B. & S. Univ., sgl. p., comp.
- Nos. 3 B. & S. Univ., c. p., comp.
- No. 3H LeBlond Univ., c. p., comp.
- No. 3 Kemp. Univ., c. p., comp.
- No. 2 Cinti Univ., c. p., comp., late.
- Nos. 2 & 1½ B. & S. Univ., c. p., comp.
- No. 2 Brown & Sharpe Vertical.
- No. 2 Cincinnati High Power Vertical,
- single pulley, power rapid traverse.
- No. 1½ Valley City Univ., c. p., complete.
- No. 1½ Owens Univ., cone pul. compl.
- No. 1 Hendy Univ., cone pul. compl.
- No. 5 LeBlond Plain, m. d., all geared.
- Nos. 3 & 4 Cincinnati h. p. Plain, c. p.
- No. 3 Hvy. Ohio Plain, c. p., p. r. l.

- No. 3 Hvy. LeBlond Plain, cone pulley.
- No. 3 Kempsmith Plain, cone pulley.
- Nos. 2 & 3 Cincinnati Plain, cone pulley.
- No. 2½ LeBlond Plain, c. p.
- No. 1 Kempsmith Plain, cone pulley.
- No. 1 B. & S. Plain, cone pulley.
- No. 0½ Cincinnati Plain, cone pulley.
- No. 21 Brown & S. Auto., latest type.
- 18" Cincinnati Automatic Miller.
- 28" Cincinnati Semi-Auto. Duplex.
- 28" Cincinnati semi auto.
- 18" Cincinnati Plain Mfg. Millers.
- Gooley & Edlund, Briggs type, Mfg.
- No. 6 Whitney Hand Miller.
- No. 2 Bristol b. b. Hand Miller.
- No. 2 Knight Milling and Drilling Mche.
- No. 2 P. & W. Hand & Pwr. Millers.
- No. 3½ Fox Hand & Power Millers.

(Continued on next Page)

And Many Others. Send Us Your Inquiries.

8 E. Pearl St., CINCINNATI, O.  
What have you to Sell?

# Rebuilt and Guaranteed Machine Tools

(Continued from Preceding Pages)

## MISCELLANEOUS

- Air compressor, 18x12x12 Worthington, dbl. steam drive, cap. 700 cu. ft.  
Air Compressor, 8½"x10" Worthington, b. d.  
Arbor Press, No. 5 Greenerd.  
Arbor Press, 15 ton Hercules Power.  
Arbor Press, No. 55 Atlas Pwr., b. d.  
Bolt Cutters, 1" Acme Class "A".  
Bolt Threader, 1" Landis, lead screw.  
Bolt Thread Mche., 1" double spindle, with lead screw, 95% new.  
Bolt Thread Mches., 1", 1½" and 2" Landis, double spindle.  
Boring Mill, 72" Bickford vert., 2 hds.  
Boring Mill, 51" Niles vertical, 2 hds.  
Boring Mill, 51" Bullard vert., 2 hds.  
Boring Mill, 42" Bausch vert., 2 hds.  
Boring Mill, 36" Bullard NEW ERA TYPE vertical.  
Boring Mill, 30" King vertical, turret head, power rapid traverse.  
Boring Mill, 24" Bullard vertical, rapid production, turret and side head.  
Broaching Machine, No. 3 J. N. LaPointe Double.  
Broaching Machine, No. 3A LaPointe (Hudson).  
Broaching Mche., No. 3B J. N. LaP.  
Chuckling Machine, No. 22 New Britain Automatic, 12000 serial.  
Chuckling Machine, No. 5-A Potter & Johnston Auto., serial in 20,000's.  
Chuckling Mche., No. 33 New Britain Auto.  
Chuckling Mche., No. 22 New Britain Automatic.  
Die Sinker, No. 3 Pratt & Whitney.  
Drill, Gun Barrel, No. 1 Pratt & Whitney, 2-spindle.  
Forcing Press, 15 ton Lucas Power, belt drive.  
Die Slotter, Garvin.  
Hack Saws, No. 9 Racine 12"x15" Power, 3-speed gear box.  
Hack Saw, 12x12" Racine, High Speed Power.  
Hack Saw, 6"x6" Racine, High Speed, Power.  
Hammer, 100 lb. Bliss Board Drop.  
Hammer, 25 lb. Little Giant Trip.  
Hammers, 40 & 60 lb. Bradley Helve.  
Hammer, No. 2A High Spd. Riveting.  
Hammer, No. 3A High Spd. Riveting.  
Hammer, 600 lb. Chambersburg, single frame, steam.  
Keyseaters, No. 5 Mitts & Merrill.  
Keyseater, No. 0 M. & M., cap. ¾".  
Keyseater, No. 2 Davis, cap. ¾".  
Press, No. 64 Consolidated s. a. Power, single crank.  
Press, No. 5 L. & J. Power, o. b. i.  
Press, No. 3 Bliss, Stiles pattern, Pwr.  
Polishing Mche., Blevaney, type "A".  
Profilers, No. 12 P. & W. 2-spindle.  
Profiler, No. 1 Garvin, 2-spindle.  
Shear, 6" Toledo Power Squaring, 14 gauge cap.  
Shear, 72" Kutachied Power Squaring, 12 gauge.  
Shear, No. 73 Bliss Trim, side shear.  
Tapping Machines, Nos. 2X and 2BG Garvin Automatic.  
Tapping Mchs., Nos. 1 and 2 Garvin Auto.  
Threaders, 4½"x12" and 6"x14" Pratt & Whitney.  
Welder, American Elect. Spot, capacity 2 pieces of ¼" material.  
Welder, Winfield Electric Spot, cap. to weld 2 pieces ¼" material.  
Welder, Thomson Elect. Spot, No. 139.  
Welder, Elect. Spot, Federal Jr., Auto.

*Many Others. Send Us Your Inquiries.*

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# QUALITY TOOLS—*not how cheap, but how good!*

## LATHES

- 4—12"x5' Hendey T. A.
- 2—14"x6' Hendey T. A.
- 1—14"x6' Hendey.
- 1—16"x7' Hendey T. A. with relief att., draw-in collets, and pan bed.
- 1—20"x8' Monarch.
- 2—18"x8' Reed.
- 1—18"x24"x6 1/4' Rahn-Larmon gap.
- 1—18"x10' Cisco.
- 1—16"x8' Lodge & Shipley all grd., motor drive, taper attachment, draw-in collets, full equipment.
- 1—14"x8' American late type, all grd. with motor in leg, draw-in attachment, collets full equip.
- 1—14"x6' Rivett Bench, comp. equip.
- 6—17" & 21"x8' & 10' LeBlond Prod.

## TURRET LATHES & SCREW MCHS.

- 2—No. 53 National Acme auto.
- 1—No. 515 National Acme auto.
- 1—No. 2-G Brown & Sharpe auto.
- 4—2 spindle Jones & Lamson.
- 2—No. 4 Foster g. f. h., p. f.
- 2—No. 2 Foster, plain head.
- 2—No. 4 Warner & Swasey.
- 2—No. 6 Warner & Swasey.
- 3—Springfield Fox Monitors.

## SHAPERS AND PLANERS

- 1—24" G. & E. cone, back geared.
- 1—24" Kelly heavy duty m. d.
- 2—20" Kelly, cone, back geared.
- 1—16" Kelly, back geared.
- 3—20" Hendey friction.
- 1—20" Steptoe, back gear.
- 1—30"x30"x8' Wilson.
- 1—36"x36"x12' Bickett.

## DRILLS

- 1—Avey 1-spindle H. S. B. B. direct motor drive.
- 1—20" Cincinnati-Bickford, direct motor drive including motor.
- 2—2 spindle Fosdick H. S., B. B.
- 1—Henry & Wright 1-sp. H. S., B. B.
- 1—Henry & Wright 2-sp., H. S., B. B.
- 1—26" W. F. & J. Barnes, sliding head B. G. P. F. and tap. att.
- 1—No. 24 Foote-Burt heavy duty.
- 1—3' Cincinnati-Bickford Radial.
- 1—4' Mueller Radial.
- 1—4' Hammond sensitive.
- 3—No. 314 Baker Heavy Duty.
- 1—4 spindle Leland & Gifford H. S. B. B. Arr. power feed.

## GRINDERS

- 1 Thompson 10"x36" univ.
- 4—No. 2-B B. & S. sur. mag. chks.

- 1—No. 2 LaSalle surface, motor dr. with magnetic chuck, generator and demagnetizer.
- 1—Thompson tool & cutter.
- 1—No. 2 W. & M. surface.
- 1—No. 14 P. & W. vert. surface.
- 1—each Nos. 70 & 80 Heald inter'l
- 3—No. 65 Heald cylinder.
- 1—No. 22 Heald rot. surf., 16" m. ch.

## MILLS

- 1—No. 1 1/2 Valley City univ.
- 1—No. 2 Hendey universal.
- 3—No. 3 Cincinnati plain.
- 1—28" Cincinnati Semi-Automatic.
- 3—No. 2 Cincinnati plain.
- 1—No. 4 LeBlond pl., h. d., v. hd.
- 2—No. 2 Van Norman Duplex.
- 2—Newton spline mills.
- 1—No. 2 Knight combination.
- 1—No. 1 1/2 American plain.
- 1—No. 2 Pratt & Whitney vert. die sinker direct motor drive.
- 1—12" Cincinnati semi-auto mfg.

## PRESSES

- 1—No. 55 1/2 Toledo s. s.
- 4—No. 22 Rockford Horning fly-wheel type.
- 4—No. 3 Rockford O. B. I. flywheel.
- 1—D. D. G-4 Ferracute dbl. action.
- 1—No. 68 Bliss double action.
- 1—No. 887 Toledo. rack & pinion.
- 1—No. 24 Michigan Horning.
- 2—No. 20-B Bliss O. B. I.
- 1—No. 5 Michigan O. B. I.
- 1—No. 4 Bliss Stiles type, geared.
- 1—10" Chicago 16 ga. steel hd. brake.

## AIR COMPRESSORS

- 1—12x10 Chgo. Pn., unloader & t.
- 1—9x8 Ingersoll-R. high pressure.
- 1—Curtis 9"x9" complete.

## MISCELLANEOUS

- 1—No. 142 Niagara squaring shear.
- 3—No. 3-A (4) No. 2-A h. s. ham.
- 1—15 lb. Bradley Hammer.
- 1—No. 10-60" throat quick work rotary shear.
- 1—8" Newton Slotter.
- 4—Hurlburt & Rogers cut-off.
- 1—Lees Simplex Cold Saw.
- 2—No. 3 double LaPointe
- 3—Type T-2 Rickert & S. tap. mch.
- 1—No. 31 Langelier Swaging machine, direct motor drive.
- 1—1000 lbs. Chambers st. hammer.
- 1—1500 lbs. Chambers steam ham.
- 1—7500 lbs. Chambers steam ham.

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*The used Machinery House* 251 St. Aubin Ave., Detroit, Mich.

# Machines of Quality

## MACHINES OF THIS TYPE ARE HARD TO FIND

42" Bullard Vertical Turret Lathe, New Era Type.  
No. 2 Rochester Horizontal Boring Mill, 3" bar.  
8' Cincinnati Boring Mill.

60" Brown & Sharpe Spur Gear Cutter.

42"x32' American Geared Head Lathe, 2 carriages, motor drive.

36"x28' Lodge & Shipley Geared Head Lathe, with taper attachment.

No. 16 Blanchard Grinder, motor in head.

48"x48"12' Cleveland Open Side Planer, 2 rail heads, 1 side head.

12" Heald Rotary Surface Grinder.

6"x32" Norton Plain Grinder.

10"x50" Norton Plain Grinder.

No. 14 Brown & Sharpe Plain Grinder.

14" Pratt & Whitney Vertical Surface Grinder.

2½' Cincinnati Bickford Plain Radial Drill.

3½' Fosdick Plain Radial Drill.

4' Western Plain Radial Drill.

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**High Grade**  
**OUR GUARANTEE**



**This is only a partial list. Write for price on any tool you need, whether listed below or not.**

## Lathes

- 1-40"x50' Pond.
- 1-45"x24' Pond.
- 1-42"x50' Putnam Grd. Hd.
- 1-42"x50' American Grd. Hd.
- 1-36"x71' American Grd. Hd.
- 1-30"x16' Ryerson Grd. Hd.
- 1-27"x16' L. & S. Sel. Gd. Hd.
- 5-26"x16' Niles-Bement-Pond.
- 10-26"x16' Bridgeford.
- 5-26"x14' Niles-Bement-Pond.
- 5-26"x12' Bridgeford.
- 13-26"x11' Wickes.
- 40-26"x10' Niles-Bement-Pond.
- 21-26"x10' Canada.
- 15-26"x10' Whitcomb-Blaisdell.
- 44-26"x10' Bridgeford.
- 12-25"x12' LeBlond.
- 1-24"x20' Reed-Prentice, Grd. Hd
- 9-24"x10' Cisco.
- 5-20"x22"x16' American.
- 1-20"x10' Hamilton, M. D.
- 1-20"x8' Hendey.
- 30-20-22"x8' American.
- 1-18"x8' Greaves-Klusman.
- 1-18"x8' L. & S. Sel. Grd. Head.
- 2-18"x8' Lodge & Shipley.
- 1-16"x14' Reed-Prentice, G. H.
- 2-16"x8' Rockford.
- 2-16"x6' Pratt & Whitney.
- 1-14"x6' American Geared Head.
- 8-8' Fitchburg Loswing.
- 9-3 1/2' Fitchburg Loswing.

## Horizontal Boring Machines

- 1-No. 0 Fosdick.
- 1-No. 2 Rochester.
- 3-No. 1 Barrett.
- 2-Rockford.

## Auto. Screw Machines

- 7-No. 6-A Potter & Johnston.
- 2-No. 5-A Potter & Johnston.
- 1-No. 56 National Acme.
- 1-2" Cleveland.
- 1-1 1/2" 4-spindle Gridley.
- 1-1" x5" New Britain.

## Turret Lathes

- 2-24" Steinele; 1-24" Gisholt.
- 2-21" Gisholt.
- 3-20"x8' American.
- 1-No. 6 Brown & Sharpe.
- 1-No. 7 Foster, Geared Head.
- 7-2-spindle Jones & Lamson.
- 3-16" Cincinnati-Acme-Fox.

## Vertical Boring Mills

- 2-72" Gisholt 2-42" Gisholt.
- 1-60" Pittsburg.
- 1-54" Colburn.
- 2-42" Gisholt.
- 4-36" Bullard, New Era.
- 1-36" Gisholt.
- 1-32" King.

## Radial Drills

- 1-4' Western.
- 1-3' Gang Sensitive.
- 1-3' American Sensitive.

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## Drill Presses

- 1—No. 46-spindle Foote-Burt.
- 1—6 spindle Henry & Wright.
- 1—32" Barnes, Self Oiling.
- 1—No. 314 Baker.

## Gear Cutters and Hobbers

- 1—No. 5 60" Brown-Sharpe.
- 1—No. 12 Barber-Colman.
- 1—No. 13 Brown & Sharpe.
- 3—No. 6 Fellows.
- 1—No. 3 36" Brown & Sharpe.

## Milling Machines

- 2—No. 4 Cincinnati, Hi-Power.
- 1—No. 3 Kemp-Smith.
- 2—No. 3 Cincinnati.
- 1—No. 3 Brown & Sharpe.
- 1—No. 2 Cincinnati.
- 1—No. 1 1/2 Rockford.
- 1—No. 0 Rockford.
- 1—No. 25 Becker.
- 1—No. 3-S Cincinnati Universal.
- 1—No. 2 Hendey Universal.
- 1—No. 29 Ohio Universal.
- 1—No. 1 1/2 Rockford Universal.
- 1—No. 1-B Milwaukee Universal.
- 1—No. 1-D B. & S. Universal.
- 2—No. 1 1/2 Garvin Duplex.
- 2—No. 3 Garvin.
- 3—No. 1 Van Norman, Hand.
- 4—Type B Briggs.

## Vertical Millers

- 1—Model ACS 2-spindle Becker.
- 2—Model SD Becker.
- 1—No. 6 Becker.
- 1—No. 5-C Becker.
- 1—No. 5-B Becker.
- 5—No. 4 Cincinnati.

- 1—No. 3-B Milwaukee.
- 1—No. 2-B Milwaukee.
- 2—No. 4-B Becker.
- 2—No. 3 Cincinnati.
- 1—Model CS Becker.

## Planers

- 1—72"x84"x12' Gray.
- 1—42"x42"x22' D. & H.
- 1—42"x42"x 9' Niles - Bement - Pond.
- 1—42"x36"x14' Cincinnati.
- 3—36"x36"x18' Cincinnati.
- 1—36"x36"x16' Rockford.
- 2—36"x36"x10' Cincinnati.
- 1—36"x30"x20' Whitcomb-Blaisdell.
- 1—30"x30"x 8' Niles - Bement - Pond.
- 1—30"x30"x 8' Gray.
- 1—30"x30"x 8' Liberty.
- 2—24"x24"x6' Gray.

## Grinders

- 1—24"x96" Norton.
- 1—18"x96" Norton.
- 2—16"x50" Norton.
- 2—14"x72" Norton.
- 4—14"x50" Norton.
- 1—12"x120" Landis.
- 1—10"x72" Norton.
- 1—No. 16, 10"x72" B. & S.
- 1—10"x52" Landis.
- 6—10"x50" Norton.
- 1—No. 14, 10"x30" B. & S.
- 5—10"x36" Norton.
- 1—10"x24" Norton.
- 9—6"x32" Norton.
- 1—6"x18" Landis.
- 1—12"x36" Cincinnati Universal.
- 1—No. 2 Landis Universal.
- 2—No. 2 1/2 Universal.
- 2—No. 60 Heald. 1—No. 70 Heald.

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## BORING MACHINES

- A. 116 1—Universal Hor. Boring and Drilling Mche. 3" Bar, Tbl. 24"x48".

## BORING MILLS

- E. 990 1—24" Bullard Rapid Production Vertical Turret Lathe.  
M.&M.7000 1—8" Cincinnati Rapid Production Vertical Boring Mill, 2 Swivel Heads. Good condition.  
C. 72754 1—96" Poole Vertical Boring Mill Motor Drive.  
G. 8665 1—8" Cincinnati Vertical Boring Mill with two swivel heads. Good condition. F. O. B. Philadelphia, Pa.

## DRILLING MACHINES—HIGH SPEED—UPRIGHT

- A. 60 1—21" Cincinnati Upright Drill, 4 step cone S. B. G. Geared Feed and Tapping Attachment.  
P. 196 1—24" Cincinnati Bickford Back Geared Upright Sliding Head Drill, Geared Power Feed, with Tapping Attachment.

## RADIAL DRILLS

- N.B. 675 1—3½" Carlton Radial Drill, Gear Box, Single Pulley Drive. Rebuilt.

## GEAR CUTTING MACHINES

- P. 148 1—36" No. 4 Brown & S. Automatic Gear Cutter. Good condition.  
G. 78 1—No. 6 Fellows Gear Shaper. Good condition.

## GRINDERS—PLAIN AND UNIVERSAL

- A. 40 1—No. 1½ Cincinnati Cutter Grinder, Universal.  
A. 44 1—No. 3 B. & S. Grinder, Universal 12"x40" Mag. Chk. and c. s.  
A. 47 1—Heald No. 75 Wet Internal Grinder and c. s.  
A. 50 1—No. 2 Oakley Cutter Grinder, Universal and c. s.  
A. 52 1—10"x36" Norton Grinder and c. s.  
Ad. 49 1—6"x32" Norton Plain Grinder. Good condition.  
P. 100 1—7½"x72" No. 16 Brown & Sharpe Plain Grinder. Good cond.  
P. 110 1—8"x30" Modern Tool Co., Plain Grinder. Good condition.  
L. 290 1—10"x48" Brown & Sharpe Plain Grinder. Ex. cond. No. 14.

## GRINDERS—CHUCKING

- Au. 15-2 1—No. 18 Bryant Chucking Grinder, No. 10 Universal Chuck with Reversible Jaws and Countershaft. Fine condition.

## LATHES

- A. 3 1—13"x6" Willard Lathe, 3 step cone D. B. G. 2 S c-s no lead screw.  
A. 8 1—18"x8" Greaves-Klusman Lathe, 3 step cone F. D. B. G. quick change and 2 S c. s.  
A. 21 1—14"x8" Champion Lathe, 3 step cone F.D.B.G., Q.C. & 2 S c-s.  
G. 6 1—15"x6" Greaves-Klusman S. B. G., Semi Q. C. G., Single Speed C-S Factory rebuilt.  
G. 44 1—16"x6" Greaves-Klusman S. B. G., Semi Q. C. G., Turret on Carriage, Double Speed C-S. Factory rebuilt.  
E. 248 1—16"x6" Monarch Quick Change Screw Cutting Engine Lathe.  
P. 516 1—16"x8" Greaves-Klusman S. B. G., Semi Q. C. G., Pan, Double Speed C-S. Factory rebuilt.  
Ad. 2 1—16"x8" American S. B. G. 5 Step Cone Q. C. G. Good cond.  
E. 405 1—18"x8" LeBlond Quick Change Screw Cutting Engine Lathe.  
P. 66 1—18"x8" LeBlond Lathe, 5 Step Cone, Spl. Bk. Gr. Swings 19½".  
P. 76 1—18"x8" Lodge & Shipley Patent Head Lathe.  
P. 501 1—24"x12" Greaves-Klusman Lathe, heavy type, quick change gear.  
E. 475 1—24"x10" Greaves-Klusman Heavy Patent, 3 Step Cone F. D. B. G., Quick Change. Rebuilt.

# Cincinnati Automatic Machine



# In Good Used Tools

- E. 3150 1-42"x18" American Geared Head, Q. C. Lathe arranged for G. M. D. Rebuilt.

## LATHES-TURRET AND HAND SCREW MACHINES

- P. 42 1-28" Gisholt Turret Lathe, 4 Way Tool Post on Carriage, 6 Way Tilted Turret on Shears, 3 Step Cone, Triple Friction Countershaft 28" Chuck. As is.
- P. 910 1-28" Gisholt Lathe Taper Attachment Chuck, 230 Volt, D. C. including Motors, nearly new. 6 1/4" Hole in Spindle.
- S. 168 1-3/8" Hand Screw Machine. Good condition.
- P. 51 1-1"x7" Acme Hand Screw Machine Power Feed to Turret.
- G. 127 1-No. 2 Warner & Swasey Hollow Hex Turret Lathe, Bar Equipment. Good condition.
- P. 901 1-2 1/4"x11" Acme Hand Screw Machine, 3 Step Cone, double back gear, power feed to turret.
- P. 506 1-2 1/4"x26" Acme Flat Turret Lathe with bar equipment.
- Ad. 12 1-2 1/4"x26" Acme Flat Turret Lathe with Chucking equipment. In good condition.
- G. 124 1-3 1/4"x36" Acme Flat Turret Lathe, Chucking and Bar Equipment. Very good condition.
- G. 126 1-3 1/4"x36" Acme Flat Turret Lathe, Chucking and Bar Equipment. Very good condition.
- P. 753 1-No. 3 Acme Universal Flat Turret Lathe with Chucking Equip.

## MILLING MACHINE-AUTOMATIC

- P. 153 1-18" Cincinnati Automatic Milling Machine, Belt Driven.

## MILLING MACHINES-PLAIN

- Ad. 25 1-No. 00 B. & S. Plain Milling Machine with Countershaft. In good condition.
- A. 27 1-No. 2 (Plain) B. & S. Miller, 4 step cone S. B. G. Geared Feed in all directions, Table 11 1/4"x49".
- A. 33 1-No. 20 Plain (Ohio) Milling Machine, 4 step cone, 4 step belt fd., length and vertical feed, 2 S c-s, Table 8 1/2"x37", Belt Shifter.
- A. 31 1-No. 24 Plain (Ohio) Milling Machine, 4 step belt feed length and vertical feed, Table 8 1/2"x40 1/2", 2 S c-s, Belt Shifter.
- A. 34 1-No. 0 B. & S. Plain Milling Machine 4 step cone, Belt Feed Length Feed, Table 8 1/2"x37", 2 S c-s.
- S. E. 400 1-No. 1 1/2 Plain American Milling Machine 3-step cone 2 S c. s. Table 46"x10".

## MILLING MACHINE-VERTICAL

- P. 155 1-No. 3 Cincinnati High Power Vert. Milling Mche. Good cond.

## AUTOMATIC SCREW MACHINES

- P. 2659 6-3/4" Cincinnati Automatic Screw Mche., 5 spdl. Good condition.
- Pi. 354 6-No. 52, 3/4" National Acme, 4 Spindle Automatic Screw Machines, Pan Type Countershaft. Good condition.
- I. 10 1-1 1/4", 4 Spindle Gridley Auto Screw Machine. Complete with regular equipment. Excellent condition.
- P. 4565 1-1 1/2" Cincinnati Automatic Four Spindle Screw Machine. New.
- S. 6 1-2 1/4" Cleveland Automatic Screw Machine.
- P. 700 1-4 1/4" Gridley Single Spindle Auto Screw Mche. Motor Driven.

## SHAPER

- A. 70 1-16" Smith & Mills Shaper, 4 step cone back geared and c-s.

## NUT TAPPER

- S. 240 1-Webster & Perks Tapper, 5 Spindle. Nearly new.

ne Co.,

Cincinnati, Ohio

# Bath's Guaranteed

## Bolt Cutters

1½" Acme staybolt cutter.

1¼" Landis, double hd., with dies.

## Boring Mills—Horizontal

P. & H., 3¼" bar, with outer support, floor plates and motor.

No. 35 Landis, 3½" bar.

4-¾" bar, Niles, with outer support and floor plates.

6½" bar Niles, with outer support and floor plates.

## Boring Mills—Vertical

44" Baush, 2 swivel heads.

84" Ridgway 2 heads, gear feed, excellent.

48" Colburn boring mill.

100" Bullard, 2 heads and rapid power traverse.

10' Betts, 2 heads, rapid power traverse, motor drive, excellent.

10'—16' Niles, 2 heads, belt dr.

51" Niles-Bement-Pond.

10'—16' Bement-Miles, 2 hds. and extension adjustable head.

72" King, 2 heads, excellent.

16'—24' Niles, with extension hd.

72" Cincinnati, 2 swivel heads, rapid power traverse.

## Cranes

15-ton Niles and P. & H. Cranes, 51' and 45' spans, D. C.

## Drills

4-spdl. Moline rail drill, 1½" cap.

24" No. 25 Foote-Burt, with compound table

No. 1, 8' wall radial.

6' Pond radial.

51" Cincinnati Bickford, sliding head, late type.

No. 9 Foote-Burt, 2-spindle.

Several 20" and small sens. drills.

No. 310 Baker, heavy duty.

4' Prentice Radial,

Foote-Burt 4-spindle.

## Forging Machines and Bulldozers

4" Ajax, steel bed.

¾" and 1½" Acme, steel bed.

2" Ajax, cast iron bed.

No. 2 Williams & White bulldozer.

No. 2 Ajax high speed.

## Grinders

84" Diamond face grinder.

26" horizontal disc grinder.

18x96" Norton plain.

No. 2 Gardner belt driven disc grinder, 18" wheels.

Various electric floor grinders and grinding stands.

No. 2 Diamond surface grinder.

## Keyseaters

No. 2 Baker, capacity 2"x20½".

No. 5 Mitts & Merrill, 3½" capacity.

## Lathes

12"x5' Carroll-Jamieson.

16"x6' Pratt & Whitney, q. c. g., taper attachment.

16"x8' Pratt & Whitney, semi q. c. g., taper and relieving attach.

30"x14' Schumacher & Boye, cone drive.

36"x14' Schumacher & Boye, triple geared.

## Tumbling Barrels

Several sets 18"x48" steel lined, square, with roller bearings and exhaust.

# CYRIL J. BATH & CO., E. 70th &

# Cleveland Stock

## Milling Machines

Style "B" Gooley & Edlund, table 54"x11½", (2).  
20"x7½"x18" Oesterlein plain, belt drive.  
No. 0 Rockford plain, 22"x6½"x15".  
No. 2-B heavy Brown & Sharpe plain, 28"x10"x19".  
No. 4 Cincinnati high power miller, table 64½"x16½".  
38"x26"x20" Ingersoll, 4 heads, late model.  
48"x42"x14" Newton, rapid power traverse, like new.  
72" Ingersoll, adjustable rail, 4 heads.  
84"x36"x16" Ingersoll, 4 heads, adjustable rail.  
24"x24"x20" Ingersoll, 3 heads, rapid power traverse, fixed rail.

## Planers and Shapers

36"x36"x18" Cincinnati heavy duty, 4 heads, motor drive.  
60"x60"x20" Cincinnati, 3 heads, very good.  
48"x36"x18" Cincinnati, 4 heads, motor drive.  
48"x48"x16" Cincinnati heavy duty, 4 heads, motor drive.  
96"x96"x16" Pond, 4 heads, belt drive.  
48"x48"x14" Hamilton, 4 heads.  
48"x16" Detrick & Harvey openside planers.  
14"x10"x24" Bement, 4 heads, motor drive.  
60" Morton draw out shaper.  
24" Queen City shapers.

## Punches and Shears

Garrison steel bed alligator shear, 2" capacity.  
84" throat, Long & Allstatter, capacity about ¾" thru ¾".  
48" throat No. 5 Southwark, capacity 2"x1¼".  
48" throat Bement-Miles cap. 1¼"x1".  
36" throat Lennox rotary shear, capacity about ½" plate.  
Lennox rotary bevel shear, ¾" capacity.  
No. 307 Niagara circle shear, ¼" capacity, 24" throat.  
Nos. 90 and 90-C Amplex triple combination punches, NEW.

## Saws

No. 0 Ryerson high speed friction saw, motor drive.  
No. 2 Ryerson friction saw, motor drive.  
Racine 3-speed power hack saw, 12"x15" capacity.

## Slotters

20" Bement crank. 48" Niles-Bement-Pond.  
36" Bement crank.

## Turret Lathes and Screw Machines

No. 1-B Foster universal. 1" Garvin screw machine.  
3"x36" Jones & Lamson.

## MISCELLANEOUS

Blower, No. 4 Root, motor drive. Oil separator and filter, National,  
Blowers, Nos. 1 & 2 Buffalo Forge. about 3600 cu. in. capacity.  
Brake, 60" Van Dorn geared. Pipe Machines, 8" Merrill.  
Chain Hoist, ½, 1, 1½, 4 & 6 ton. Riveter, Allen 36"x20"x10".  
Hammer, 100 lb. Bradley helve.

**Machinery Av., N. E., Cleveland, O.**

# Partial List Of Our Machinery Attractions

*Send Us Your Inquiry*

## ENGINE LATHES

- |  |  |
|--|--|
| 14"x 6' LeBlond, l. c. g. and chuck.                         | 16"x 8' Hendey, c. r. and t. a., q. c. g. without tie bar.   |
| 14"x 6' Hamilton.  | 16"x 8' Prentice, compound rest, l. c. g., chuck.  |
| 14"x 6' Porter, compound rest and taper attachment, l. c. g. | 18"x 7' Fulton heavy duty friction hd. pl. turning lathe, pan bed, dbl. tool post and countershaft, new. |
| 16"x 5' Lodge & Shipley, old style, compound rest, q. c. g.  | 18"x 10' Star, 4-s. c., a. g., with 16" 4-jaw ind. chuck.  |
| 16"x 5' Bradford, c. r., loose change gear.                  | 24"x 10' Greaves & K., c. r., q. c. g.   |
| 16"x 5' Monarch, compound rest, standard pattern.            | 24"x 12' Schumacher & B., c. r., q. c. g.  |
| 16"x 8' Rockford, c. r., q. c. g., 3-step cone.              | 30"x 10' S. & B. c. r., loose change gear  |
| 18"x 8' Boye & Emmes, c. r., q. c. g.                        |  |

## TURRET LATHES AND SCREW MACHINES

- |  |   |
|--|---|
| No. 00 Brown & Sharpe auto.  | 2 1/2" Cleveland model "A" auto, screw mch., with 5-hole turret.  |
| No. 0 Brown & Sharpe auto., (2).   | No. 2-G Brown & Sharpe auto-matics (2).   |
| 12" W. & S., friction head.  | No. 2 Brown & Sharpe turret forming (2).  |
| 12" W. & S., friction head, with set-over turret.                        | 1-1/2"x 10" Millholland, geared friction head with p. f. to turret (3).   |
| 14" W. & S., friction head, (2).   | 1" Pratt & Whitney hand screw mch.  |
| 16" W. & S., friction head.  | No. 4, 1 1/2" Acme Machine Tool Company's geared friction head with p. f. to turret.                              |
| No. 4 Warner & Swasey, p. h., a. c. and b. f.                            | 1"x 7" Millholland turret screw mch., pl. hd. auto. ck., bar feed hand fd. cross slide, with power fd. tur., new. |
| No. 2 Warner & Swasey, p. h., a. c. and b. f.                            |   |
| No. 4 Warner & S., g. f. h., a. c. and b. f.                             |   |
| No. 55 Nat'l Acme 4-spd. auto.   |   |
| No. 3 Foster g. f. h. turret screw mch., with p. f. carriage and turret. |   |

## DRILLING MACHINES

- |  |   |
|--|---|
| No. 1-S Garvin duplex, (2).  | No. 22 Colburn, sgl. sp., hvy. duty, 1 1/2" cap., with solid spindle and flange for receiving multiple drill heads, new, (2). |
| 3' American sensitive radial with t. a. and elevating table.               | No. 30 Natco, belt driven.  |
| 4' Mueller, gear box, sgl. pulley dr.                                      | No. 44 Colburn, sgl. sp. heavy duty, 2 1/2" cap., with solid sp. and flange for receiving multiple drill heads, new, (2).     |
| 5' and 6' Americans, tr. grd., 8-speed change, gr. box, sgl. pulley drive. | Colburn horizontal duplex drill, 2 1/2" cap. with rotating table, arranged for motor drive, new.                              |
| 21" Aurora W. & L., square base, stationary head.                          | No. 34 Demco high speed bench drill with C spindle, new.  |
| 6' Western, with speed box, tap. att.                                      |   |
| No. 14 Colburn heavy duty.   |   |
| 12-spindle Moline, cam fd., two tbl.                                       |   |
| No. 14 Natco.  |   |
| 3-sp. Edlund, high sp., ball bearing.                                      |   |
| Fox multiple spindle, sliding head, arranged for 12 spindles (4).          |   |

# The Strong, Carlisle & Hammond Co.

# Used And Rebuilt Actively Priced

## Inquiries

### MILLING MACHINES

No. 6 Bickett, hand, bench type, (3).  
No. 2 Cincinnati vertical, s. p. d.  
No. 4-B B. & S. pl., constant spd. dr.  
with pump and rapid pwr. traverse.  
Becker 2-spindle, with rotary table.

24"x18"x60" Ingersoll, Farwell ver-  
tical milling head.  
No. 12 B. & S. manufacturing.  
13-B Brown & Sharpe, plain manu-  
facturing, (2).

### SHAPERS AND PLANERS

16" American back geared, single  
pulley drive, motor driven, 440 volt,  
3 phase, 60 cycle mtr., t. b. control.  
20" Hendey friction, (2).  
16" Smith & Mills, back grd. crank.

22"x22" x 5' Putnam planers, (2).  
30"x30"x10' Woodward & Powell,  
three heads.  
72"x72"x26' Fitchburg, four heads.

### CENTERING MACHINES

Centering machines, single spindle Cadillac.

### GRINDERS

No. 2 Cincinnati univ., latest type.  
No. 3 Diamond wet tool grinder with  
drop apron, new.  
No. 4 Diamond wet tool grinders  
with drop apron, new.  
No. 10 Brown & Sharpe plain.  
No. 14-48" B. & S. plain, (3).  
No. 14 30" B. & S. plain, late type.  
No. 24 Landis plain.  
8" Heald rotary surface grinder with  
magnetic chuck.  
No. 6-A Bryant internal.  
Webster & Perks, h. s., b. b., double  
spindle polishing lathes, cabinet  
base (9).  
No. 14 Besly disc grinder.

No. 3 Brown & Sharpe planer type  
surface grinder.  
No. 10-18" Besly disc grinder.  
No. 6-18"-1 Besly disc grinder.  
Gisholt universal form tool grinder.  
J. B. Point "Yankee" drill grinders,  
complete, new.  
Type "DE" Hisey-Wolf internal.  
No. 11 Brown & Sharpe pl. grinders.  
Plain emery wh'l stand with column.  
No. 24 Woods cutter and reamer  
grinder, complete, new.  
20" Whitney wet tool grinders, com-  
plete with countershaft, new, (2).  
C3A Grand Rapids duplex drill  
grinders with wet att., new, (2).

### MISCELLANEOUS

Arbor press, No. 29 Atlas.  
Boring or drilling machine, No. 1-S  
Garvin duplex horizontal  
Broach, No. 2 double Lapointe.  
Hammer, No. 17-B High Speed.  
Hand brake, 3' Dreis & Krump.  
Hand brake, 5' Dreis & Krump.  
Layout plates, 30"x36" and 36"x48"  
C. I., mounted on portable stand.  
Marking machine, Etchograph.

Oil extractor, No. 150 Curtis.  
Oil extractor, No. 400 Curtis with  
hoist.  
Oil extractor, large size American,  
with pedestal for motor drive.  
Pipe machine, No. 300 Oster, 1" to 2".  
Pipe machine, 8" Jarecki, No. 85.  
Profiler, No. 12, 2-spdl. P. & W. vert.  
Scleroscopes, Shore.  
Slitting shear, No. 206 Niagara, pwr.

## Cleveland, Ohio; Detroit, Michigan

1", 1½" 2", 2½", 3", 4", 5", 6" Ajax Upsetters  
 ¾", 1", 1½", 2½", 3", 4" and 5" Acme Upsetters.  
 Nos. 2, 3, 4, 5 and 9 Williams-White Bulldozers.  
 50, 75, 100, 150 and 200 lb. Bradley Upright Hammers.  
 40, 60, 80, 100 and 200 lb. Bradley Cushioned Helve Hammers.  
 No. 52 and No. 74½ Bliss SS Presses.  
 No. 56 Toledo Geared Trimming Press, M. D.  
 No. 46C Bliss Press, dist. bet. uprights 96", wt. 30,000 lbs.  
 Alligator Shears, various capacities. Guillotine Shears 1½", 4".  
 No. 5 Stiles Solid Back, Single Geared Press, Motor Drive.  
 Long & Allstatter Multiple Punch, ram 84", weight 25,000 lbs.  
 L. & A. Size B Dbl. End Punch, 18" throats, 2¼" thru 1¼".  
 Rock River Sgl. End Punch, 16" thrt., arch. jaw, cap. 1" thru 1".  
 Williams White SE Punch, 36" thrt., arch. jaw, M. D., 1¼" thru 1".  
 Kling Bros. SE Punch, 1" thru 1", 48" throat, arch. jaw.  
 No. 6 Whiting Sgl. End Punch, arch. jaw, 16" throat, ¾" thru ¾".  
 Ryerson Quadruple Combination Punch, Bar and Angle Shears.  
 Pels Triple Combination Punch, Bar and Angle Shears.  
 Long & Allstatter Plate Shear, cap. 4'x½", M. D., on turn table.  
 Bertsch Plate Shear, capacity 8' of 1".  
 Toledo Geared Gate Shear, cap. 60" of No. 11 gauge.  
 Williams-White Dbl. Angle Shear, 6x6x1", M. D., on turn table.  
 Whiting Stake Riveter or Punch, 48" throat, 2 gag sockets.  
 No. 3 Ryerson High Speed Friction Saw, cap. 24" beams.  
 No. 2 Ryerson High Speed Friction Saw.  
 12' Wall Radial Drill for Structural Work.  
 Detroit 5-spindle Semi-Automatic Drills.  
 Threading Machines: 1 and 2-sp. Acme & Landis 1" to 4".  
 Baker, R. & L., Elwell-P. & Auto. Elec. Elevating Platform Trucks.  
 Wire Straighteners, 3/16", ¼", 5/16" and ⅝".  
 No. 1A Am. Carbonizing Furnace, Nichrome Retort & Heat Contr.  
 No. 65 American Gas Heating Machines.  
 General Electric Centrifugal Compressors.  
 3A and 4A High Speed Riveting Hammers, M. D.  
 Abbott Double Compartment, water tight, Burnishing Barrel.  
 Thread Rollers, Cold Headers, Bolt Trimmers, Nut Tappers.  
 Cold and Hot Pressed Nut Machines.  
 Tumbling Barrels.  
 Williams Chip Crusher or Shredder.  
 Forging and Spring Tapering Rolls.  
 National Machinery Co. Nos. 1 and 2 Washer Machines.

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# Exceptional Offers In Good Used Forge & Machine Shop Equipment

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# High Grade Machine Tools

## Lathes

- 44"x40" Pond, cone drive, L. C.
- 42"x20" L. & S., Q. C. D. C. M. D.
- 36"x16" Fay & Scott, L. C.
- 27"x12" LeBlond, Q. C. late type.
- 25"x10" LeBlond, Q. C. late type.
- 25"x18" LeBlond, Q. C. late type.
- 24"x12" LeBlond Lathe.
- 24"x10" L. & S., Q. C. late type.
- 21"x10" LeBlond, Q. C. late type.
- 18"x 8" Rahn-Larmon Q.C. late type.
- 14"x 6" Mueller Tool Room, Q. C.
- 14"x 6" Hendey, Yoke Head.
- 9"x20" Rivett Bench Lathe.

## Radial and Upright Drills

- 4" Dreses, High Duty, G. B. D.
- 5" American, T. G. G. B. D.
- 5" Cincinnati Bickford Full Universal, G. B. D.
- 6" Dreses Gear Box Drive.
- 28" Cincinnati Upright, C. D.
- 26" Cincinnati Upright, C. D.
- 26" Rockford Upright, C. D.
- 25" Barnes Upright, C. D.
- 25" Superior Upright, C. D.
- 21" Canedy-Otto, B. G. P. F.

## Planers

- 27"x27"x8" Woodward & P., 1 head.
- 24"x24"x12" Chandler, 2 heads.
- 26"x26"x12" Blaisdell, 2 heads.
- 32"x32"x16" American, 2 heads.
- 32"x32"x16" Gray, 2 heads.
- 48"x48"x16" D. & H. Opens. 2 hds.

## Boring Mills

- Cleveland Horizontal 2 1/2" bar.
- No. 1 Rockford, 2" bar.
- 30" Colburn, Vertical.
- 36" Bullard New Era type.
- 36" Bullard, Rapid Production Vertical Turret Lathe.
- 51" Bullard Vertical, 2 heads.

## Gear Cutters

- Whiton Auto. 36", Bevel & Spur.
- 36"-H G. & E. Gear Hobber.

- 6" Gleason Generator.
- 18" G. E. Gear Hobber.

## Grinders

- No. 60 Heald, \$275.00 each.
- 10"x20" Landis.
- 10"x36" Landis, self contained.
- No. 2 Wilmarth & M. Tool Grinder.
- 12" Pratt & Whitney Vert. Surface.
- 14" Pratt & Whitney Vert. Surface.
- No. 1 LeBlond Tool Grinder.
- Modern Chaser Grinder.
- Yankee Drill and Tool Grinder.

## Shapers

- 7" Rhodes Shaper.
- 15" Springfield, cone drive.
- 16" Cincinnati, b. g., c. d.
- 20" Hendy.
- 20" Cincinnati, cone, B. G.
- 20" Smith & Mills, cone, B. G.
- 24" Barker, cone, B. G.
- 28" Queen City, S. P. D.

## Milling Machines

- No. 6 Whitney, Hand.
- No. 3 1/2 Fox.
- No. 3 Kemp Smith, Plain, Cone.
- No. 3 Cincinnati, Plain, Cone.
- No. 3 LeBlond Heavy, Cone.
- No. 1 1/2 Valley City.

## Miscellaneous

- 1" National Bolt Cutter, complete.
- No. 3 Woods Tilted Turret.
- No. 2 Foster Turret.
- No. 52 Cleveland Automatic.
- No. 195 American Can Punch Press.
- No. 4 McDonald Punch Press.
- No. 2 Kane & Roach Multiple P. & S.
- No. 7 Atkins Hack Saw 8x8.
- No. 120 Grant Riveting Machine 3/8".
- 100 lb. Little Giant Hammer.
- 50 lb. Little Giant Hammer.
- No. 8 Long & A. Punch & Shear.
- 10" Bertsch Power Squaring Shear.
- 14 gauge.
- Toledo Spot Welder, 12 K. W.

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# Attractive Prices To Move Stock

- BORING MILLS:**-----Niles Knee Type Horiz Boring & Mill. Mche. 7" bar.  
Horizontal Table Type 3 3/8" bar—\$475.  
Barrett Hor. Boring Mill, 7" bar.  
36" American; 42" Bullard.
- DRILLS:**-----7" Langelier Sensitive; 14" Rockford.  
20" Champion; 20"—22" and 30" Aurora.  
20", 22", 24" Sibley B. G., 20" Snyder.  
20" Excelsior b. g.  
3" Bickford, 4 1/2" Western Radial.  
5" Baush Radial, box table.  
Moline 10-spindle, No. 5 Morse taper.  
Baush Multiple Drill, 12-spindle.
- LATHES:**-----10"x5" Reed; 10"x5" Star; 18"x8" Prentiss.  
14"x6" Prentice, h. s.  
16"x8" 7" American, h. s., t. a.  
18"x8" Sidney, q. c. g., d. b. g.  
24"x12" Rockford, taper att.  
24"x15" Schumacher-Boye cone head.  
26"x16" Prentice, taper attachment.  
26"x24" Putnam, p. c. f.  
18"x12" Roll Turning.  
1"x15" Pratt & Whitney Turret Lathe.  
No. 4 Wood Turret Lathes, cap. 1".
- MILLING MCHES.:**---No. 1 Cincinnati Universal, No. 2 Plain.
- PUNCH & SHEAR:**---Canedy-Otto, hand power, 1/2"x1/2".  
Squaring Shear, 38"x1/4".  
Beatty No. 7, 42" throat, cap. 1"x1".  
Ryersford No. 3, 16" throat 1"x1".  
Cleveland "EF", 36" throat 1 1/4"x1".  
No. 2 Hilles & Jones hor. punch, 8" throat.  
Doelger-Kirsten No. 2 Alligator, high knife.
- GRINDERS:**-----Bridgeport Knife & Drill.  
Cincinnati Tool and Cutter.  
Yankee Twist Drill.  
Besly No. 3 Disc.  
Emery Double End.
- SHAPERS:**-----14", 16", 24", 30" Gould & Eberhardt, b. g.
- MISCELLANEOUS:**---Air Compressor, 4 1/2"x4 1/2" and Tank.  
Band Saw, Crescent 32".  
Brake, 10" No. 10 gauge.  
Clock, Simplex Time Recording.  
Furnace, S. C. H., Gas 3-Door Heating.  
Floor Crane, No. 2 Panama.  
Planers, Cincinnati 48"x44"x12".  
Planer, Flather 48"x48"x16" heavy duty.  
Planer, Cincinnati 42"x36"x12", 2 heads.  
Planer, Detrick & H. Openside, 96"x72"x26".  
Press, equal Stiles No. 4, Niagara No. 4.  
Presses, Arbor, 20 ton Weaver; No. 3 1/2 Greenard.  
Profiler, P. & W. table 12"x15", double spindle.  
Saw, No. 2 Ryerson Friction.  
Saw, 18" Higley Cold.  
Screw Machine, 2 1/4"x11" Acme.  
Screw Machine, Cone 1 1/4" Multiple Spindle.  
Screw machine, Meriden, 6 hole turret.  
Straightening Mch., Abramsen, 1/4" to 1 1/2" cap.

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2-2 1/4" J. & L. Flat Head Turret, each.....	300.
1-No. 2A Warner & Swasey Universal Turret.....	1,000.
1-3x36 Pratt & Whitney Turret.....	400.
1-Model H. 21" Gisholt Turret.....	550.

## MILLERS

3-Used No. 2 Becker Vertical each.....	\$ 375.
1-Rebuilt No. 5-C Becker Vertical.....	1,750.
1-Rebuilt No. 6 Becker Vertical.....	2,750.
2-No. 4 1/2 Becker Plain, each.....	100.
1-No. 1 1/2 Garvin Universal.....	250.

## DRILLS

24" Prentice Wheel and Lever.....	\$ 75.
New 5' Reed-Prentice Radial, single pulley gear box drive, box table.....	2,000.

## PLANERS

1-New 24x24x8' Whitcomb, second belt drive one head.....	\$2,000.
1-24x34x16' Cincinnati, two heads.....	1,200.
1-30x30x20' Woodward & Powell, 2 heads.....	500.
2-36x36x12' Woodward & Powell, 2 heads, each.....	1,500.
1-42x42x26' Woodward & Powell, 2 heads on rail and 2 side heads.....	2,200.

## GRINDERS

6x32" Norton plain, good as new.....	\$ 450.
No. 14 B. & S. Plain 6x48".....	150.
No. 14 B. & S. Plain, 10x48, good as new.....	1,550.
No. 2 B. & S. Universal.....	200.
No. 1 LeBlond Universal Tool and Cutter.....	150.
No. 1 Norton Cutter and Reamer.....	125.
No. 142 Fraser Automatic Cylindrical.....	1,000.

## MISCELLANEOUS

No. 36" Fellows Gear Shaper.....	\$ 200.
Betts Machine Company Rack Cutter.....	150.
Gear Tooth Rounder.....	50.
24" Gould & Eberhardt Shaper.....	650.
3 1/4" Gridley Single Spindle Automatic.....	300.
Dinga Magnetic Separator.....	100.
Becker Cutter Relieving Machine.....	1250.

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Worcester, Mass.

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# Bargains in Lathes

**14x6 American Engine Lathe**—quick change, screw cutting, hollow spindle, 5 step-cone pulley, single back geared, dog plate, single friction countershaft.

**PRICE \$275.00**

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**14x6 Carroll & Jamieson Engine Lathe**—quick change, screw cutting, double back geared, 4 step-cone pulley, steady rest, bedpan type, spindle hole  $1\frac{3}{8}$ ", thread range 3-32, countershaft.

**PRICE \$275.00**

---

**16x6 American Engine Lathe**—screw cutting, quick change gears, single back geared, 4 step-cone pulley, compound rest, double friction countershaft.

**PRICE \$400.00**

---

**16x6 Lodge & Shipley Engine Lathe**—quick change, double back geared, hollow spindle, 3 step-cone pulley, steady rest, dog plate, bedpan type, single friction countershaft.

**PRICE \$400.00**

**17x12 LeBlond Heavy Duty Engine Lathe**—screw cutting, double back geared, quick change gears, 3 step-cone pulley, hollow spindle, bedpan type, countershaft, arranged for motor drive. Can be furnished with either a compound rest or hexagon turret tool post holder.

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**18x6 Greaves & Klusman Engine Lathe**—screw cutting, quick change, hollow spindle, single back geared, 3 step-cone pulley, equipped with dog plate, steady rest, double friction countershaft.

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**24x11 Chard Engine Lathe**—screw cutting, quick change, hollow spindle, double back geared, hollow spindle, bedpan type, equipped with face plate, pump, 4 way turret tool post, countershaft.

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## Lathes, Engine

- 1-14" Cisco Direct M. D. with Mtr.
- 1-14"x12' Springfield.
- 1-14"x12' Monarch L. C. Gear.
- 3-14"x12' Monarch Motor Driven.
- 1-16" South Bend Gap Lathe.
- 1-18"x14' Hendey Semi-Q. C. G.
- 1-20"x 8' Hendey.
- 1-24"x 8' American.
- 1-24"x10' American Motor Drive with Taper Attachment.
- 2-14"x12' Lodge & Shipley.
- 1-24"x14' American.
- 1-36"x12' American.

## Lathes, Production

- 2-Wells Speed.
- 5-36" Greenlee.
- 2-9"x20' Porter-Cable.
- 1-8" Lo-Swing.
- 1-17"x 6' LeBlond.
- 1-21"x 6' LeBlond.
- 1-21"x10' LeBlond.
- 4-LeBlond Crank Pin Lathes.
- 3-No. 2 Sp. Potter & Johnsons.
- 4-42" Wheel and Ring Lathes.

## Automatics & Screw Machines

- 2-53" Gridley Single Spindle.
- 1-41" Gridley Single Spindle.
- 1-24" Gridley Single Spindle.
- 17-No. 60 Brown & Sharpe Auto.
- 2-No. 7 Foster Hand.
- 8-No. 1 Brown & Sharpe Hand.
- 26-No. 0 Brown & Sharpe Hand.
- 1-No. 4 Millholland Screw Mchs.

## Drills

- 1-4' American Universal Radial.
- 2-4' Bickford Radial.
- 1-34' Canedy-Otto Radial.
- 2-4-Sp. Avey High Speed, B. B.
- 1-4-Sp. 21" Cin. Bickford Sl. Hd.
- 1-4-Spindle Moline Hole Hog.
- 1-Harrington Rail Drill, 4-Spdl.
- 1-3-Spindle Demco.
- 2-42" Cincinnati Bickford Upright Drill Press, Vertical Shaft Dr.
- 1-36" Cincinnati Bickford.
- 1-No. D-1 Colburn.
- 12-20" Champion B. G. P. F.
- 1-20" Silver.
- 1-17" Canedy-Otto Motor Driven.
- 1-17" Niles-Bement-Pond.
- 1-Hole Hog.
- 1-Pratt & W. Hor. Drill and Tap.
- 3-Detroit.

## Drills, Multiple Spdl.

- 1-No. 11 Natco Multiple Spindle.
- 1-No. 12 Natco Multiple Spindle.
- 3-No. 14 Natco Multiple Spindle.
- 1-No. 13 Natco Multiple Spindle.
- 1-Fox Multiple Spindle.

## Boring Mills

- 1-No. 5 Defiance.
- 1-No. 0 Giddings & Lewis.
- 1-30" Newton.
- 1-No. 21 Lucas Horizontal.

## Milling Machines

- 1-No. 7H Becker.
- 1-No. 7 Becker.
- 2-No. 5 Hendey Lincoln Type.
- 1-No. 4 Becker.
- 1-No. 4 Cincinnati.
- 1-No. 3 Becker.
- 2-No. 3 LeBlond.
- 1-No. 3 Hendey Universal.
- 1-No. 24B Kearney & T. Vert.
- 5-No. 24 LeBlond.
- 3-No. 2 Van Norman.
- 1-No. 2 Cincinnati.
- 4-No. 32 Kemp Smith.
- 1-Lincoln.
- 2-Goolley & Edlund.
- 3-Steptoe.
- 1-Toledo Hand.
- 12-Becker Rotary Table.

## Grinders

- 10-No. 208 Heald Ring.
- 1-No. 1 Norton Tool and Cutter Universal.
- 1-Bath Tool.
- 1-53" Gardner Disc Motor Driven.
- 1-18" Krummel Disc and Surface.
- 1-No. 120 Gardner.
- 1-Harris Hob.
- 1-No. 12 Brown & Sharpe.
- 1-No. 4 Vertical.
- 1-No. 2 Norton.
- 1-No. 1 Cincinnati.
- 1-No. 1 Sterling.
- 1-10"x36" Norton.
- 1-Foote-Burt.
- 1-Hill-Curtis.
- 2-Webster & Perks.
- 3-5 H. P. Electric.
- 1-Electric Ring.
- 1-Double Pedestal.
- 1-6x32 Norton Grinder.
- 8-No. 2 B. & S. Surface Grinders.
- 1-Daubert & Kratsch Grinder.
- 1-Grand Rapids Steel.
- 1-Hanshett Saw.

## Gear Machines

- 2-No. 5A Lees-Bradn. Gear Hob.
- 3-B. M. 36 G. & E. Gear Rough.
- 1-Gould & Eberhardt Gr. Shaper.
- 1-No. 3H Brown & Sharpe.
- 1-5A Lees-B. Gear Generator.

## Thread Mills

- 1-No. 8 Lees-Bradner.
- 1-No. 6 Lees-Bradner.
- 1-Pratt & Whitney.
- 1-No. 4 Lees-Bradner.

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13"x5' Blount Speed Lathe, Belt.  
28"x30' Pond, motor.  
H-27"x12' Pond Time Saver, arr.  
for d. c. var. speed motor.  
H-36"x18' Pond all geared motor.

## Turret Lathes

3"x36" P. & W., belt.  
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42"x42"x26' Pond, 4 hds. rev. m. d.  
48"x48"x20' Pond, 4 hds. rev. m. d.  
48"x48"x27' Pond, 4 hds. rev. m. d.  
H-36"x36"x10' Pond, 3 hds., r. m. d.  
H-36"x36"x12' Pond, 4 hds., r. m. d.  
H-36"x36"x14' Pond, 2 hds., r. m. d.  
H-36"x36"x14' Pond, 4 hds., r. m. d.  
H-42"x42"x14' Pond, 4 heads, belt-  
ed, m. d.  
H-42"x18"x20' Pond, Extra Heavy  
Frog and Switch, 2 heads, r. m. d.

## Upright and Radial Drills

No. 1 Bement Vert. Cotter, Belt.  
5' Right Line Full Universal motor.  
6' Ridgway Plain, motor.

## Millers

Whitney Hand, belt.  
No. 4 Cincinnati Universal, motor.  
No. 6 Becker-Brainerd Vertical, belt.  
6"x132" P. & W. Thrd Miller, Belt.  
H-No. 3H LeBlond Plain, cone dr.

## Shapers and Slotters

22" Bement Slotter, motor.

Niles 75-Ton 4-Motor Electric Traveling Crane, 49' span, with 10-Ton Aux. Hoist, 3-60-440 A. C. Motors, practically new, located at LaSalle, Ill.

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36" No. 4 B. & S. Spur Cutter, belt.

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LeBlond No. 1 Cutter, belt.  
No. 2 Sellers Tool, belt.

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34" Sp. Ridgway Hor., motor.  
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54" Sp. 80" Bement Horiz., belt.  
H-44" Niles, with r. h. tur. hd., mtr.

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5 ton, 3 motor, 34' 8" span.  
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10-ton, 3-motor, 34' 8" span.  
30-ton, 4-motor, 34' 8" span, 5-ton aux.  
25-ton, 4-mtr., 71' 11" span, 5-ton aux.  
40-ton, 4-mtr., 71' 11" span, 5-ton aux.  
2-ton, 2-motor, wall crane, 19' arm.

## Miscellaneous

Y & T 3-ton Hand Crane, 35' 6" span  
Bement 1100 Lbs. S.F. Stm. Hammer.  
4" capacity Espen-Lucas Cold Saw  
Williamsport No. 190 Ry. Cut-Off  
Saw Belt.  
100—Card Dey Time Regis. Clocks.  
H-3"x3" Cap. 12" Throat, L. & A.  
Hor. Punch Motor.  
H-185-lb. Motor Driven Air Ham.

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# Special Bargains

No. 15 Williams White single end punch, arch. jaw, 18" throat, 220 v. 3 ph. 60 cy. motor.

No. 13 Williams White single end punch, plain jaw, bar and angle shear. Motor drive.

No. 4 Williams White bulldozer, belt drive.

No. 59 $\frac{1}{4}$  Toledo straight side single crank press, tie rod frame, 12" stroke. Motor drive.

No. 307 Bliss tie rod press, geared 8" stroke.

No. 165 Consolidated double crank press, 37" between housings. Flywheel type.

**All the above are real bargains**

## Other Machines

$\frac{3}{8}$ - $\frac{1}{2}$ " Cleveland auto screw machines, both model A and B. Late serials.

Two No. 00 Brown & Sharpe auto screw machines with slotters. Serials 5802, 5803.

Two No. 0G Brown & Sharpe auto screw machines serials 4308, 4310.

No. 2 Cincinnati universal miller, all power feeds, dividing head, vise, etc.

Nos. 5 and 6 Becker vertical millers.

20" Rockford back geared shaper.

15" Dill slotter, very fine shape.

No. 3 Cincinnati High Power vertical millers.

16"x96" Landis plain grinder, good condition.

36"x36"x15" Betts planer, two heads on rail.

10" Robinson toggle press, motor drive.

**No. 666 Toledo embossing  
press, 5" stroke.**

**A. D. White Machinery Co.**

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# A Few Listings From a Stock of 1500 "Restored" Machines

Gridley 4 spindle  $\frac{3}{4}$ ",  $1\frac{1}{4}$ "  $1\frac{3}{4}$ ",  $2\frac{1}{4}$ ".  
Brown-Sharp Nos. 0, 00, 1 and 2.  
No. 21 Besly Disc Grinder.  
Landis Grinder 16x52".  
Norton 6"x32", to 18"x96".  
Diamond Face 30"x84".  
Pratt & Whitney Vertical No. 14.  
Brown & Sharpe Univ. Nos. 1 & 2.  
Brown & Sharpe Surface No. 2.  
24" and 36" Bullard Boring Mills.  
42" Bullard Boring Mill.  
8" Bar Barrett Horizontal.  
7" Bar Newton Horizontal.  
10—16" Niles Vertical.  
Niles Extra Heavy Boring and Turning  
Mill, 14" and 16".  
10" Niles Vertical.  
72" Niles-B-Pond Vertical R.T.  
72" Giholt Vertical RT.  
84" Bullard Vertical RT.  
72" Betts Vertical Side Head.  
No. 21 Lucas Horizontal.  
Pratt-Whitney Auto Miller, 5", 12".  
Brown-Sharp Univ. Nos.  $1\frac{1}{2}$ , 3.  
Garvin Universal No. 2-A.  
Milwaukee Universal No. 3-B.  
Cincinnati Vertical Nos. 2, 3, 4.  
Cincinnati Plain Nos. 2, 3, 4, 5.  
Cincinnati Pl. Intermittent Feed No. 5.  
Hendey Plain No. 4-B, No. 3-B.  
Cincinnati Universal No. 2, No. 3.  
1—No. 4 Kempnith Maxi Mill.  
Ingersoll Slab Mill 59x20x12".  
Ingersoll Slab Mill 40x22x6".  
Drees Plain Radial 4', 5'.  
American Full Universal 6'.  
American Triple Geared 4'.  
American Plain 6'.  
Natco Multiple Nos. 14, 32 and 30.  
Baush Multiple Nos. 2, 3, 4.  
Cincinnati-Bickford 5', 6'.  
Rockford Gang Drill 2, 3, 4.  
Barnes Gang Drill 4-spindle.  
Warner-Swasey Turret, Nos. 3A, 2A.  
Warner-Swasey Screw Mche. No. 4.  
Libby Turret 18", 26".  
72"x58" Niles-Bement-Pond M. D.  
50"x30" New Haven, M. D.  
48"x20" N-B-P Motor Drive.  
42"x39" Putnam Motor Drive.

42"x50" American Motor Drive.  
42"x50" Putnam Motor Drive.  
42"x18" American Motor Drive.  
36"x20" American Motor Drive.  
30"x12" Lodge & Shipley Grd. Hd.  
30"x12" American Geared Head.  
30"x12" H-S-G Geared Head.  
26"x22" Boye & Emmes M. D.  
28"x28" Hamilton Motor Drive.  
Newton Rotary Planer, 84".  
Pond Planer, 84"x84"x15".  
D. & H. Openside 72"x72"x18".  
Cincinnati 48"x36"x20".  
Cincinnati 48"x48"x10".  
Cincinnati 36"x36"x8".  
D. & H. Openside 36"x36"x12".  
Gray Planer, 26"x26"x8".  
No. 55 Ferracut Press.  
15-Ton Lucas Forcing Press.  
No. 1 Bliss Toggle Press.  
No. 4-P Ferracut Press.  
Greenerd Arbor Press Nos. 4, 7, 8.  
Ajax Upsetter  $\frac{3}{4}$ ",  $1\frac{1}{2}$ ", 2".  
Acme Upsetter  $1\frac{1}{2}$ ",  $2\frac{1}{2}$ ".  
Ingersoll Compressor 12"x12".  
Penn Compressor 10x9".  
Hilles-Jones Bending Roll No. 3-H.  
Bertsch Angle Bender 3".  
Rotary Table Cincinnati 20".  
Fays Automatics.  
Gorton Cutting-Off No. 2-B.  
Root Pressure Blower.  
Garvin Tappers No. 2, No. 2-X.  
Baker Tapper 7".  
Newton Slotter 15".  
G. & E. Shaper, 16", 20", 24", 32".  
American Shaper, 16", 20", 24".  
Queen City Shaper 28".  
N-B-P Traveling Head 26".  
Stockbridge 16" single geared New.  
Stockbridge 16" back geared New.  
Stockbridge 20" back geared New.  
Stockbridge 24" back geared New.  
Cincinnati Gear Cutter 36".  
B. & S. Gear Cutter, 72", 60", 36".  
Pratt-Whitney Gear Cutter, 90", 104".  
Gleason Gear Planer, 24", 36", 48".  
Gleason Gear Generator 6", 11", 18".  
Gould & E. Gear Cutter 48", 72".  
Barber-Colman Gear Hobber No. 12.

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# REAL BARGAINS

## LATHES

16"x 8' LeBlond, q. c.	20"x 8' American, q. c.
14"x 6' Monarch, q. c.	24"x 10' Monarch, q. c.
18"x 8' Bradford, q. c.	24"x 16' Bradford, l. c.
18"x 10' Boye & Emmes, q. c.	27"x 18' Lodge & Shipley, m. d.
17"x 3' National, q. c. g.	42"x 18' Walcott, cone drive.

**No. 0 Giddings & Lewis Horizontal Boring Mill—  
¾" bar with a. c. motor drive—excellent condition.**

## RADIALS AND DRILL PRESSES

3' American, cone drive.	24" Cincinnati Sli. Hd. b. g. p. f. t. a.
4' Bickford s. p. drive.	24" Aurora, sliding head, b. g. p. f.
6' Dreses, motor drive.	8-spindle Bausch multiple.

## PUNCH PRESSES

No. C-2 Ferracute o. b. inc.	No. 2 L. & A. 10" throat.
No. 18 Bliss, o. b. inclinable, (4).	No. 6 Whiting, single end, 12" thrt.
No. 3-A Willard, o. b. inc.	No. 103 Bliss.
Bertsch quick acting 18" throat.	Robinson straight side.
No. 3 Bliss, stiff back.	No. 64 Consolidated s. s., 18" bet.

## PLANERS AND SHAPERS

24"x 6' Powell, 1 head.	25" Smith & Mills b. g.
30"x 8' Cincinnati, 1 head.	16" Smith & Mills, cone drive.
30"x 8' Gleason 1 head.	16" Gould & Eberhardt shaper.
38"x 36"x 12' Cincinnati, 2 heads.	16" Steptoe b. g.
24" Kelly shaper, b. g.	15" Smith & Mills, cone drive.

**No. 5 LeBlond Heavy Duty Miller  
Single Pulley or D. C. Motor Drive**

## GRINDERS

No. 1 Norton tool and cutter gear.	No. 60 Heald, long table.
No. 1½ LeBlond tool and cutter grinder, (3).	No. 60 Heald, short table.
No. 2 B. & S. surface.	No. 3 B. & S. universal.
No. 2 Walker surface.	16x66 Queen City plain.
	No. 1½ Landis universal.

## MILLING MACHINES

No. 0 Cincinnati plain.	No. 3-B B. & S. motor drive.
No. 1½ Valley City plain.	No. 4 Becker Brainard plain.
No. 3 B. & S. plain, cone drive.	No. 4 Cincinnati plain.

## MISCELLANEOUS

Bolt cutters, 2", 1½" and 1" Acme.	Hammer, steam, 800 lb. Niles.
Holt cutter, 1" Landis.	Keyseater, No. 1 Colburn.
Boring mill, 42" Bullard vertical.	Millers, hand, (6).
Boring mill, 10' Niles, 3 heads.	Shear, 10' Bertsch 14 gauge.
Chain hoists, various sizes.	Shear, 10' Cincinnati 10 gauge.
Gas furnaces.	Tooth rounder, 12" Ingle.
15" Gleason gear generator.	Turret lathe, No. 2 W. & S. (2).
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12"x 5' Cleveland, geared head.  
14"x 6' Carroll-Jamieson, new, q. c.  
14"x 6' Hamilton, grd. hd., motor dr.  
14"x 6' Monarch, quick change.  
14"x 6' Sebastian, grd. hd., m. d.  
14"x 8' Sidney, double back geared.  
16"x 8' Hamilton, quick change.  
18"x 10' American, quick change.

19"x 10' LeBlond extra heavy duty.  
20"x 8' American, geared head.  
20"x 10' Hamilton, rapid production.  
20"x 10' Prentice, taper attachment.  
20"x 10' Boye & Emmes.  
24"x 24' Prentice, with raising block.  
36"x 60' & 36"x 60' Fitchburg, Lo-Swing

### TURRET LATHES and SCREW MACHINES

Acme 8" cap., wire feed column.  
No. 4 DeLancey, 1 1/2" capacity.  
1 1/2" capacity Smurr & Kamen.  
1 1/2" Milholland.

2x24 and 3x36 J. & L.  
No. 1 Foster, 15/16" capacity, (2).  
Warner & Swasey No. 2.

### SHAPERS

14" Niles, traveling head.  
14" Steptoe, crank.  
16" American tool room.

16" O. & S., b. grd., new, low price.  
24" O. & S. back geared crank.  
16" Steptoe, b. g.

### PRESSES

No. 10 and No. 15 Excelsior, foot.  
Nos. 3-A & 5-A Willard inclinable.

Nos. 1, 1 1/2, 2, 2 1/2 Robinson, new.

### DRILLS and RADIALS

No. 1 Baush multiple.  
Electric Drills, Black & Decker.  
No. 4 Duntley electric.  
22", 24", 26", 28" and 32", sliding hd.  
32" Hoefler, sliding head.

6" Ceiling drill.  
25" Kokomo high speed.  
4-spindle Reed sensitive.  
44" Stover.  
Hole Hog, No. 66-D, 7-spindle.

### MILLING MACHINES

No. 1 Kemp Smith universal, new.  
One No. 1-Y Brown & Sharpe, plain.  
No. 2 Kemp Smith plain.  
No. 3 Kemp Smith plain, new.  
No. 25 Bilton.

No. 25 Becker plain, power feed.  
No. 2 H Brown & Sharpe plain.  
Oesterlein 24x7 1/2 x 18 plain.  
Briggs "A" high duty, 24x8" table.  
No. 7 Becker, Lincoln type.

### GRINDERS

Nos. 1 & 78 W. & M. surface.  
6"x 15" Fitchburg plain.  
12"x 36" Cincinnati universal.  
16"x 42" Landis universal.  
36" and 66" Yates plate.

No. 60 Heald cylinder.  
Schmitt cylinder grinder.  
J B X, W. & M. tool and cutter.  
No. 10 Besly 18" double disc.  
No. 20 Bryant, chucking.

### MISCELLANEOUS

Band saw, Clark, compound.  
Band saw, Napier 10"x 10".  
Blower, No. 6 Piqua, pressure.  
Blower, positive pressure, Leiman  
Boring mill, Colburn No. 3, tur. hd.  
Boring mill, Sellers 50" car wheel.  
Boring mill, 7 1/2" column.  
Brake 6", double truss.  
Brake 10", Chicago Steel, 16 ga.  
Brake 10", Keene, 18 ga.  
Broaching mch., 1 and 3 LaPointe.  
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Hammer, 150 lb. Standard drop.

Hammer, 200 lb. Bradley.  
Pipe machines, 2", 4" & 6".  
Planer, 36"x 36", Gray, heavy duty.  
Planer, 36"x 36"x 14" Gray, 2 heads.  
Planer, 42"x 42"x 12" Gray, 2 heads.  
Pumps, Gould triplex, 6 1/2"x 8".  
Punch & shear, 1/2"x 10" throat.  
Riveting hammers, Nos. 1, 2, 3, 4-A  
High Speed.  
Scale, 1500 lb. Toledo, dial type.  
Shear, 60" Peck, Stow & W., 18 ga.  
Shear, No. 362 Robinson.  
Shear, No. 20 Quickwork, 30" throat.  
Shear, circular, Pettingell, 60" thrt.  
Threading mch., W. & P. 2-spindle.

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MACHINERY Dept. H. COMPANY  
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- 3—Natco No. 30.
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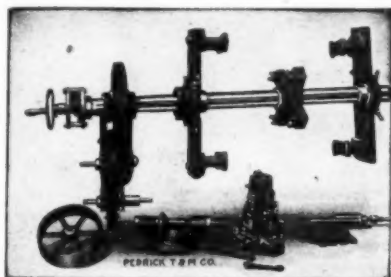
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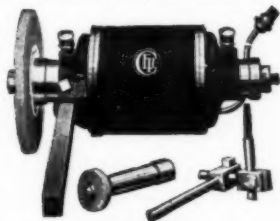
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**Screws On and  
STAYS ON—**

**CAN'T  
COME  
OFF**



**CAN'T SPLIT  
STAYS COOL  
WON'T BURN**

Patented April 24, 1928--No. 1,453,082

# SHUR - GRIP

## Solder Iron Handle

### Outlasts a Dozen Ordinary Handles

A hot soldering iron is a risky and cumbersome article to fool around with—you want to know it is under your control. With the HYRO Shur-Grip Soldering Iron Handle you know you are safe, for it holds the iron absolutely rigid, does not burn or heat up, and will not split. A safe and comfortable handle that will eliminate all of your troubles.



Showing inside construction of the SHUR-GRIP. The heat escapes through the hole in the direction indicated by arrows.

### MADE IN THREE SIZES:

No. 7 for stem  $\frac{3}{8}$ " to  $\frac{1}{2}$ " dia.  
(Generally  $\frac{1}{2}$  to 4 lb. irons).

No. 8 for stem  $\frac{1}{2}$ " to  $\frac{5}{8}$ " dia.  
(Generally 4 to 8 lb. irons).

No. 9 for stem  $\frac{5}{8}$ " to  $\frac{3}{4}$ " dia.  
(Generally 8 to 12 lb. irons).

*Carried in Stock by all Leading Jobbers*

**Hyro Manufacturing Co., Inc.**

201  
Varick St.

**HYRO**  
**PRODUCTS**

New York,  
N. Y.

*"Speed-Up Production"*

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# Portable Electric Grinders



## MADE IN FIVE SIZES

$\frac{1}{3}$ H. P. for 5x $\frac{3}{4}$ wheel	$\frac{1}{2}$ H. P. for 6x1 $\frac{1}{4}$ wheel
1 H. P. for 8x1 $\frac{1}{2}$ wheel	2 H. P. for 8x2 wheel
3 H. P. for 14x2 wheel	

Made in Universal, Direct Current and Alternating Current  
for all standard lighting and power circuits.

Ball Bearing Motor and  
Timken Roller Bearing Grinding Spindle.

## FOR SINGLE PHASE

(lamp socket A. C. Current)

These Grinders are equipped with Hisey Commutating Repulsion-Induction Motors, which, unlike the old fashioned split-phase motors, have no dragging centrifugal switch, pick up speed instantly, consume less current on start and will stand greater overloads.

40 degree C. Motor with 100 percent overload capacity.  
Two Pole (Underwriters approved) Switch.  
Adjustable steel wheel guards.

*Write for Catalog 40-H*

**The Hisey-Wolf Machine Co.**  
**Cincinnati, Ohio**

*High Grade Electric Drills, Grinders and Buffers*  
*Authorized Distributors Everywhere*

**IT'S HIGH GRADE—IF HISEY MADE**

# **NEW BRITAIN** **Smooth Top** **STEEL BENCHES**



*At Last~*  
**A Smooth Top Steel Bench!**  
**The last word in Steel Benching**

*Among the many features are—*

- Perfectly smooth top.
- No bolt or screw heads protruding.
- No danger from splinters.
- No fire hazard—no oil soaked top.
- No warping or twisting.
- Several lengths and widths.

**New Britain Smooth Top Steel Benches are in  
keeping with modern trends.**

*Send for new bulletin just issued.*

**Shop Furniture Division**

**The New Britain Machine Co.**  
**New Britain, Conn.**



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